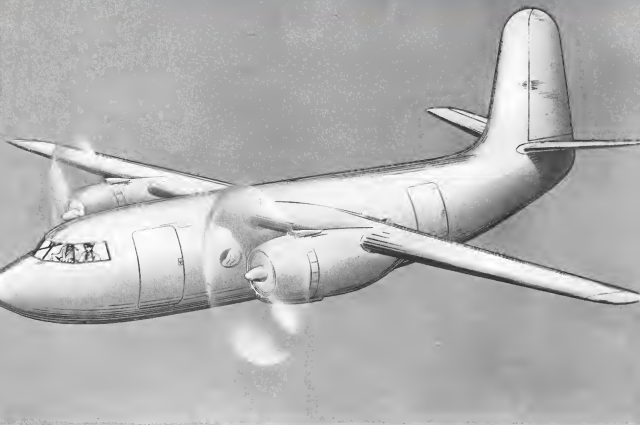


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

AUGUST 7, 1944



Martin Version of Short-Range Transport: *This drawing of the Glenn L. Martin Co.'s Model 202-12 depicts a high-wing version of a short-range 30-passenger plane, with a useful load of 10,658 lbs., designed to meet Air Transport Association's A-1 requirements. (Story on Page 43).*

Plane Production Goal Cut 15,000; Rate Stabilized

Employment totals must be kept at peak to meet requirements; more planes than this year to be built in 1945 in five of nine categories.Page 7

Martin Submits Data on 30-Place Short-Range Plane

Drawings on projected short-haul transport, designed to meet ATA-A1 specifications, are turned over to Requirements Committee.Page 43

Transfer of U.S.-Owned Plants to Peacetime Work

APB chairman urges conservation of plane makers' skills through establishment of human aircraft production reserve.Page 31

Six-Runway Compromise Plan Adopted for Idlewild

Design may be extended later into either conventional parallel pattern or tangential plan suggested by American Airlines.Page 48

AAF Maps Aviation Demobilization After Nazi Defeat

Proposed adjustments may give hint as to extent to which civilian plane manufacture may be resumed.Page 9

Confusion on Horsepower Due to Varied Ratings

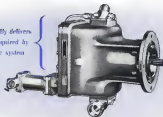
Commentator explains War Emergency Power categories and why one engine may be labeled with several performance figures.Page 23

HYDRAULIC POWER

FOR **Lockheed** CONSTELLATION



Automatically delivers
volume required by
hydraulic system



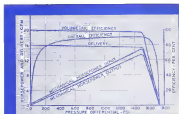
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regardless of volume
and engine speed

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The Vickers Pump automatically delivers the volume of fluid required by the hydraulic system. When the requirement decreases, the stroke of the piston is shortened; when more volume is needed, the piston stroke is lengthened. There is no excess of fluid pumped. The pump maintains full pressure in the system at all times with very little horsepower. The variable volume pump eliminates the necessity for the conventional accumulator and unloading valve required when a constant volume pump is used. The variable volume pump is recommended when hydraulic power is used continuously during flight.

As shown by performance curves, volumetric efficiency and overall efficiency are very high. Maximum recommended operating pressure is 1700 psi and maximum recommended speed is 2700 rpm. Maximum hydraulic horsepower output is 150 hp at 2700 rpm. The range in pressure necessary to cut volume from maximum to zero can be varied to suit requirements. The maximum pressure is readily adjustable.

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THE AVIATION NEWS

Washington Observer

PRODUCTION LAGS—Top Army and Navy officials in Washington are making no effort to conceal their concern over a falling off in the output of needed war materials. Significantly, however, aircraft was not included in the list of vital items, despite the fact that last month's production was a little below schedule—an even 5,000 planes. Technical requirements of the services apparently are being met, or there would have been some mention made of it at recent conferences in Washington at which the production lag was discussed and plans laid to overcome deficiencies.

SLUMP FACTORS—An important factor in the production slump is the lure of big-name and old-line companies offering postwar careers. Intentionally or inadvertently, such companies are diverting smart engineers, researchers, chemists, designers, management and other experts from firms loaded with war contracts and being prodded by the armed services for more production. Aircraft companies are being hard hit because (1) many of their key men fear that aviation will slump and they will be dropped when peace comes, and (2) other manufacturers want aircraft men because of their varied experience with new metals and their fresh viewpoint on design, streams for lightweight and processes of fabrication. Some of the aircraft manufacturers have appealed to the War Relocation Administration and the WPA to do something about that situation which they regard as increasingly serious.

NATIONAL SERVICE AGAINST—Industrial representatives in Washington express the opinion that the organized campaign of peace conferences and statements launched last week by military and naval officials to emphasize manpower shortages as a cause of production lags is the beginning of another effort to swing a National Service Act. Although Gen. Somervell reported decreased production in various categories, he carefully refrained from mentioning other programs which are in good condition, including aircraft, munitions, and naval construction. Industry association sources in the capital pointed out further that the General did not make clear how much of the reduced production was due to setbacks inflicted by the government itself.

JUNE REPORT DELAYED—Other observers noted that Donald Nelson's monthly overall report for munitions production was not released

until Thursday of last week, much overdue. It is customary for OWI to clear such production data used in Mr. Nelson's public report before it is released to the press. In at least one previous instance the War Department refused to approve such figures with the comment that they were too inaccurate. When this season was published by the press, however, the statistics were cleared immediately. The War



Lockheed Constellation Typhoon

Dept. also is still violently opposed to Donald Nelson's order scheduled to be effective Aug. 18 giving regional offices of WPA increased powers for approving recommendations of industry and this adds another element to what has developed as a fierce inter-agency conflict.

CANADIAN BASES—United States and Canada are not overlooking long-range joint defense plans in the vital areas northwest to Alaska and northwest toward Europe, despite Canadian payments for the airbases built by the U. S. Coast Army Air Base in Labrador, key to the northeast staging route to Europe, is held by Canada under 50-year lease just as bases of the British Columbia in the defense area off the U. S. Coast and in the Caribbean are held by the U. S. Greenland and Iceland undoubtedly will remain part of the defense network vital to U. S.-Canadian safety in another war. Little known bases are situated at The Pas and Churchill in Hudson Bay, South-

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VOLUME 3 • NUMBER 2

Aviation News
McGraw-Hill Publishing Co., Inc.

August 7, 1944

Plane Production Goal Cut 15,000; Rate Stabilized at Present Level

Employment totals must be kept at peak to meet requirements; more planes than this year to be built in 1945 in five of nine categories; one new group to be added.

By WILLIAM G. KEY

Aircraft production schedules for the balance of this year and 1945 have been leveled out with goals reduced nearly 15,000 planes under the previous W-10 program.

Actually, the W-11 program virtually stabilizes production at present levels, with airframe weight remaining at 100,000,000 pounds per month until Germany is defeated. There then will be adjustments to meet the new demands of the Pacific war.

"Paper" Adjustment — Even though the goals have been reduced, production this year will exceed the 100,000 mark and total production next year will be within 500 planes a month of current output. Cuts in the program are hardly more than "paper" adjustments that bring goals in line with present output—higher, for the balance of this year actually, than last month's production.

Planes in five of nine categories must be produced in greater quantities next year than this year, and one new category will come into production.

Worker Problem — Employment levels must be kept at present rates to meet the requirements of the armed services for planes, and the only cushion against worker losses will lie in the improved effi-

ciency of employees in aircraft plants. Here is the production picture by types of planes:

Fighters

Fighters account for almost half the schedule reduction this year and next year, but more planes in this category must be produced next year than will be delivered in 1944. The decrease in goal this year is approximately five percent and 10 percent in 1945, but some 3,000 more are scheduled for production next year.

Heavy Bombers

Goal for 1944 is reduced only slightly more than 100 planes, almost one-fourth next year. However, emphasis on the larger version will keep airframe rate in the classification high, even though total number is lowered.

Medium Bombers

There is slight reduction in total delivery goal this year, but the anticipated totals for 1945 have been increased over the previous schedule. The schedule, however, for 1945 was less than half this year's effectiveness of one type for Pacific warfare probably accounts for the shift.

Light Bombers

Two types are included in this category — twin-engine attack bombers and single-engine Naval type bombers. Schedule for this year cut only slightly, but 1945 production in both types will exceed anticipated deliveries this year even though the schedules have been reduced.

Naval Reconnaissance

Adjustment in the schedule is almost infinitesimal, but production next year will be more than four times this year's, reflecting anticipated needs in the Pacific theater.

Photographic

Not on this year's schedule, some will be produced in 1945.

Transports

Reduction for this year approximately three percent, and reduction in 1945 schedule only slightly more. However, total production will increase over this year's.

Trainers

Schedule reduced several hundred this year, but increased hundreds next year, total production to be more than half that of this year.

Communications

Schedule cut between eight and nine percent this year, increased virtually the same percentage next year with production increasing within hundreds of this year's output.

Modification

Another factor in the production picture that will affect heavy bombers particularly was reflected in the press conference held by C.



The new P-53 Bell Kingfisher

E. Wilson, vice-chairman of the War Production Board, last week, where he pointed out that production figures were lower than they could have been because of increased modification of planes for combat in the plants of the original manufacturers. This undoubtedly will tend to increase, with the net result that reduction in numbers of heavy bombers scheduled for production will be matched from the potential shortstop by the increase in changes on the production line.

Pan American Seeks Mass Overseas Trade

Apply for CAB approval on Latin-American runs 65 were below current levels, under 60- and 80-passenger transports dependent on government go-ahead.

Pan American Airways, seeking the initiative in the competition for post-war overseas air traffic, last week announced the filing for CAB approval of new low passenger and cargo schedules throughout Latin-America. Pan Trigue described the action, which cuts passenger rates about 50 percent on long hauls and cargo rates to one-half or less, as taking the lead boldly and not waiting many years for the normal cycle to carry through.

Delays. Says—The entire new schedule, intended to provide mass transportation for U. S. and Latin-American businessmen and vacationists at levels competitive with surface travel, is contingent upon government go-ahead on substantial orders which PAA has placed for 50- and 166-passenger, land-based transports, capable of air-transporting 800 to 1,000 tons.

The manufacturers and the number of planes under contract are not disclosed but orders are described as increasing Pan American's present passenger capacity more than 100 times.

2 1/2 Cents a Mile.—The new rates are as low as 3 1/2 cents per mile and average 4 1/2 cents in contrast with the present average of 8 1/2. The new charge from New York to Buenos Aires would be \$190.50 compared with \$361.35 now. Tampa to Havana is 17, formerly \$34. New York to Puerto Rico is \$41, formerly \$113.13. Rates are based on travel sitting up. De luxe "moonette" accommodations on the same routes will increase mileage rates 25 percent from the mass transportation charge.

July Output

Nearly 63,000 airplanes were produced in the first seven months of this year toward the goal of approximately 100,000 aircraft by the end of 1945, despite the fact that last month's production—43,000—was the lowest monthly figure since last December.

Charles E. Wilson, executive vice-chairman of the War Production Board, disclosed that July output was 609 below schedule, a situation partly attributable to shakedown runs for the Fourth of July week-end and time lost through plant inventories.

Requirements Met.—The discrepancy between the schedule and the production was not the cause of particular concern among production people or the industry, since tactical consequences of the aerial efforts are being met.

June production was 6,948 airplanes. The program called for the output of 4,524 planes this month and unless unforeseen difficulties arise the industry

should be able to meet the schedule.

B-20 Production.—Wilson disclosed that four more Boeing B-20 Superfortresses were made last month than were scheduled. In addition he reported that 300 light-type planes were scheduled during July in favor of a cargo plane—now named—schedule was recently needed by the military.

The 50 percent production slump was explained by Wilson as being due to the fact that about 100 planes were lost because of the July 4 holiday and that some plants shut down July 3 with workers apparently unable to take summer leave. Abnormalities also figured in the loss. Another 124 planes actually went built but were not counted, Wilson said, because of a decision to make modifications of the plants instead of at modification centers and they were not counted. The delay and the more modification work is being done at the plants of origin to avoid delays in delivery.

Unless unusual hiccups in show, however, it probably will be satisfactory before any legislation on these programs is approved in final form.

War Mobilization Director James E. Sperry and leaders of both parties in Congress have urged quick action on legislation covering the remaining phases of industrial conversion from war to peace.

Legislation governing termination of war contracts already has been passed and Robert H. Hensley, former Assistant Secretary of Commerce for Air and more recently vice-president of Sperry Corp., has been named by the President to be director of the newly-established Office of Contract Termination.

Survey Made.—Studies are under way in both houses on legislation for disposal of surplus war property, under which the program organization headed by W. L. Clayton is expected to be continued. It is now functioning under executive order.

Supplementing these studies will be legislation governing reconversion of industry and demobilization of the armed forces, with a goal of full employment for 40,000,000 soldiers and 30,000,000 war workers.

AAF Maps Demobilization Plan For Aviation After Nazi Defeat

Proposed adjustments, transmitted to Production Executive Committee of WPB, may give hint as to extent to which civilian plane manufacture may be resumed.

Detailed plans for adjustment of the aircraft production program after the defeat of Germany have been transmitted by the Army Air Forces to the Production Executive Committee headed by Charles E. Wilson, executive vice chairman of the War Production Board.

These plans are now being prepared by PEC and when completed should indicate the extent to which civilian plane production can be resumed.

The fact that the plans have been prepared, although as late of their content is given, is revealed in a written statement of Mr. Wilson to the Murray War Council Subcommittee of the Senate Military Affairs Committee, which has been conducting reconversion hearings. The statement will be released for general publication.

Some Plans to Continue.—Selection of plants to be retained in military production or in stand-by after the defeat of Germany now is being reviewed by the PEC and characterized by Mr. Wilson in his statement as a task of great complexity. His main goal in this work, which indicates the reversal of emphasis in the war agencies, is to design the best balance between the following considerations: military security and post-war military utilization of the plant, efficiency in aircraft production, maximum civilian output, possibilities for re-employment on a geographic basis, and elimination of bottlenecks in the re-expansion of civilian production.

Rests on Civilian Credit.—Mr. Wilson, generally preferred as opposed to any program looking forward to peacetime operations, is disclosed in this statement as arguing that manufacturers be allowed and encouraged to begin development work on civilian aircraft even before the defeat of Germany, providing only that no schedule output of military aircraft be maintained.

The Wilson statement submits that plants whose schedules have been cut back to less-than-capacity output should be permitted to be-

gin work on post-war planes, and that plants producing military planes should be granted the same prerogative if war output is pre-empted on schedule, if no design revision was required and if engineering man-hours are restricted to a level that will not interfere with war plane production.

Emergency.—He indicates that the only plants that could not be retained in this program will be those "producing the newest and most-wanted tactical planes (e.g. the Superfortress)." They will be pushed to the utmost for some time if military requirements are to be met and production of resources can be permitted in such plants for some time. However, Mr. Wilson pointed out that there would be compensations in such a continued warplane schedule, since these plants will be perfecting their tactical models "which may give them an advantage in the post-war military aircraft field." However, as he points out, most companies building aircraft for the military are also building aircraft for the civilian market at which post-war development can be carried out.

He warns that no advance blueprint can furnish a satisfactory solution for all problems to be faced after the defeat of Germany. The PEC, according with utilizing studies of military requirements to fit them with estimates in general terms of what can be produced in civilian shops when the German defeat releases the work of the nation's productive capacity.

Program.—Wilson indicates in his statement that the old-line aircraft companies will be kept in production through the post-war period as war through a system of releasing together resources that complement each other in production. Private facilities which were engaged in other than aircraft production should eventually be released to first and foremost military production should be increasingly concentrated in specialized aircraft plants. These plants with a high degree of subcontracting will be released ahead of those with little or no subcontracting.

Wilson's statement reveals gen-



CIVIL AIR ATTACHE:

Washington Attaches to the First State Department official named as civil air attaché at U. S. embassy. His new title puts him at the center of the war effort. For five years he has dealt with aviation for the Department, both in Washington and London. He is licensed as a private pilot.

eral agreement with the ACCA on post-war policies of the nation and says:

A national aerial policy should be formulated immediately, dealing with the extent of participation in international air transportation, the proposal that the United States should claim mail and parcel post move by air, the extension of domestic air transport to smaller communities, and the disposal of surplus warplanes.

Foreign markets can be as important, if not more important, than the domestic market for transport planes. The foreign field will mean a market not only for surplus but gliders, ground schools, branch facilities for American-built planes and, later, U. S. participation in foreign aircraft manufacturing.

The best insurance against future starvation is a strong and healthy aircraft industry based on widely expanded private plane sales. Employment in this field might reach that of the automobile industry. College pilot training could supply military pilots and stimulate demand for private planes. Disposal of private plane surpluses would encourage demand. Airfields, airports and access roads should be developed immediately after V-Day.

Army and Navy development efforts should be given competent plane manufacturers released from

warplane production to insure increasing importance.

One of the most important phases of post-war air transport will be the large-scale use of planes by business firms and government agencies for speed, luxury and the most efficient production of industry.

Lufthaffe Thrown in To Slacken Retreat

Nazi again using sizable numbers of planes, which had been conspicuously absent on Norway and Russian fronts.

There are mounting indications that the Germans again are using their air force in an effort to slow Nazi retreat on the Eastern and Western fronts.

Fighters of the Ninth Air Force over the Normandy front have reported renewed Nazi aerial activity. Units operating in the area as large as 60 Focke-Wulf 190's and Messerschmitt 109's. Some of the Nazi fighters were carrying bombs, suggesting that the Germans were trying to slip through for attacks on Allied tanks and other ground forces in the pattern used by the tactical air of the Allies. However, Allied air superiority has not been challenged successfully, and serious retreating to the thousands are continued against German armies in the hinterland.

1,000 Planes in West—The Nazis are not believed to be able to put more than 1,000 planes into action on the Normandy front, the Low Countries and northwestern Germany.

The Russians have reported a resurgence of Nazi air activity, particularly on the East Prussian front, while Soviet fighter fleets again have been battling against American heavies in their renewed daylight attacks on the German oil network. They are not used in the great numbers massed in the early days of the campaign, but are nevertheless in sufficient numbers to cause trouble. American heavies have been hammering the Luftwaffe at Narva and oil plants at Pleshet in Russia.

News stories claimed from the Italian front spoke of Allied planes landing refugees and wounded from Yugoslavia, but it is probable that only unengaged fighters are being used for these operations.

1st Air War in Pacific—In the Pacific, Southern Pacific operations

were centered against Halseid's island, some 400 miles south of Davao in the Philippines, while in the Central Pacific operations were being conducted from Japan in support of ground operations against Taiwan and Luzon.

Land-based operations mean that fewer Navy Force 58 can be repositioned for another of its lightning strikes against the Japanese anywhere in the wide range of ocean between the Aleutians and Tyuk. Vice Admiral Marc A. Mitscher meanwhile forecast stronger Japanese opposition. Mitscher and pilots now flying from Japanese carriers are being used as gun fodder while more efficient flight crews are being trained in Japan. The enemy has plenty of aircraft, but seems to be lacking in first-class pilots, the Admiral said.

It has been disclosed that Bell's P-38 Kingcobra is replacing the P-39 in action. Probably the bulk of production will go to Russia. Official combat radius of the Kingcobra is 50 percent greater than that of the P-39. Armament is substantially the same, with a 27 mm. cannon firing through the propeller hub.

Kingcobra Helps Pace Russian Drive

Soviet Air Force getting bulk of Bell production of new improved Cofee model.

The Bell P-38 Kingcobra is helping pace the Russian advance, it was disclosed from work with official announcement that the Kingcobra is replacing the P-39 Airacobra in action. The Red Air Force is getting the bulk of the Bell production and the first version of the Cofee series has been extremely popular with the Russians because of the way it has fitted into their tactical operations.

Armament of the two planes is essentially the same, with a 27 mm. cannon firing through the propeller hub, two 50-caliber machine guns firing through the propeller and two wing 50-calibers. The Russians—and in some extent the Americans in the Pacific—have used the Airacobra as a ground support plane against tanks and artillery positions as well as a fighter. The Kingcobra has a 50 percent greater operating radius.

1st Air War in Pacific—In the Pacific, Southern Pacific operations

AVIATION CALENDAR

Aug. 19(1)—Federal Aircraft Corp., AGCA, Dept. of Commerce, New York 33, N. Y.

Aug. 19(2)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(3)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(4)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(5)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(6)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(7)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(8)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(9)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(10)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(11)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(12)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(13)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(14)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(15)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(16)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(17)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(18)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(19)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

Aug. 19(20)—United States Navy, Bureau of Aeronautics, Navy Dept., Washington, D. C.

longer than that of the Airacobra. A new two-stage Allison 1560 hp V-12 engine with its fuel system, supercharger geared at low speed for medium altitude performance and a higher speed for high altitude work gives the plane a service ceiling of 35,000 feet compared with 30,000 in the Airacobra. The horsepower rating is 300 greater in the Kingcobra Allison than the single stage Allison used in the Airacobra. Speed of the Kingcobra is officially rated at close to 400 mph, compared with 375 mph in the Airacobra.

The Kingcobra changes have added 500 pounds to the weight of the ship, and a four-bladed Aero-propeller prop distinguishes it as the ground front in the three-bladed on the Airacobra.

Bendix Unit to Raise B-29 Parts Output

Expansion of production of vital new equipment for the Boeing B-29 Superfortress is planned by Bendix Machine Division of Bendix Aviation Corp., which as the officially appointed spare parts supplier for the air force, will take over operation of the Navy-Romagnolo-Bard "N" plant at Elmira, N. Y.

A joint announcement by Elly and AAF officers and production men got under way as soon as possible on the new equipment developed by Bendix and Elly in conjunction with AAF engineers to anticipate specialized global requirements of the long-range bomber.

1st Air War in Pacific—In the Pacific, Southern Pacific operations

The Carl L. Norden Co., which has operated the plant as managing agent for the Navy since Nov. 1943, now is gradually terminating its Elmira production of Norden bombsights, due to fulfillment of the Navy's current requirements, as recently announced. Norden took over management of the plant in Nov. 1943.

Navy Gets 17 Army Air Installations

Seventeen former Army air installations have been transferred to the Navy Department in the past few months. In addition, the Navy temporarily is using five other Army airfields and AAF facilities at five naval installations have been transferred to the Navy.

One question asked by Congressmen in the course of House Select Committee on Post-War Military Policy, of which Rep. Wood-

rum (D. Va.) is chairman and in hundreds of appropriations committees has been that of utilization of abandoned airfields by the other services. It was pointed out that wherever possible this has been done, but the full extent of transition to the Navy has never been made public.

Facilities Transferred—Following is a list of the facilities transferred, with the former Army name given first and the new Naval title in parentheses:

1st Naval Air Station, Fort Belvoir, Mo. (1st Army Air Station, Fort Belvoir, Mo.)

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16th Naval Air Station, Fort Belvoir, Mo. (16th Army Air Station, Fort Belvoir, Mo.)

17th Naval Air Station, Fort Belvoir, Mo. (17th Army Air Station, Fort Belvoir, Mo.)

NEW WEST COAST HILLER-COPTER

Just released by Stanley Hiller, Jr., 19-year old Berkeley, Calif., inventor, are their pictures of his helicopter, described as the first such machine to be constructed and flown successfully on the West Coast (Aviation News, July 31, Page 18). The young inventor, who was 16 when he started the project, is seen seated in the 'copter during a shop run of the

machine's 50-horsepower Franklin engine and motor mounts—minus rotors—and in the right picture taken on the University of California grounds, where secret test flights have been under way since last May. Photo picture of the 'copter on a dromedary shows the position of counterrotating rotors at the point of encounter.



DPC Adds \$1,300,000 To Higgins Contract

Brings total commitment for New Orleans Commando plant to \$31,000,000, summary of weekly activities in U.S. and war agencies.

By MARY PAULINE PERRY

Defense Plant Corp. has increased its contract with Higgins Aircraft, Inc., to provide additional equipment at the plant in New Orleans manufacturing Curtiss Commandos. Approximately \$1,300,000 is being spent on additional machine tools and a building to house a drop hammer, resulting in an over-all commitment of about \$31,000,000.

Northrop Aircraft's contract with DPC has been increased by approximately \$60,000 to provide additional plant facilities at Hawthorne. Overall commitment is now about \$1,150,000.

War Production Board add users of controlled materials may accept deliveries of aircraft aluminum rivets for use in production of aircraft components in excess of the limitations of CMP Reg 3 from July 1, 1944 to Dec. 31, 1944. However, during that period manufacturers are required to schedule their receipts of aircraft aluminum rivets in such a manner that by Dec. 31 their inventories will be within all of the inventory limitations. The Board said this was to provide a period of time for users to accomplish an orderly reduction of their inventories of aircraft rivets to practicable minimum working levels.

To eliminate present difficulties in securing carbon dioxide for aviation fire fighting equipment, WPB has amended its regulation providing ratings for listed chemicals and other materials by adding gaseous, liquid and solid carbon dioxide to the list of affected chemicals.

Special Tooling.—A person who has the right to buy controlled materials for maintenance, repair and operating supplies under any regulation of the Board may not use an assistant number or symbol to buy such material to make special tooling for his own use, even if the special tooling will belong to his customer after the completion of the contract, WPB said.

A revised edition of the "Control



DARE DEVILS

Left-footed opponents of Louis, Col., Louis T. Hoek, Army Air Force, got a surprise when they met this squadron commander of a Welsh Air Force fighter group in action over France. He invariably uses this format before each flight.

Controlled Materials Design Guide is available to assist large, medium, plant manufacturers design wartime items. Over-all commitment is now about \$1,150,000.

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Official Timer Writes Man's Fight To Fly

The evolution of aviation from the early dreams of Leonardo da Vinci down to present-day jet-powered aircraft is presented in a new book *Man's Fight To Fly*, by John P. V. Heintzler, president of Longview Watchmaker Watch Co., Inc., who helped organize the Timing Control Board of the National Aero-Astronaut Association in accordance with chronometric specifications of the Federation Aeronautique Internationale of which he is chief timer.

Comprehensive Photos.—The 366-page chronology of aviation commences with 200 documentary photographs of world's air records. One section of the book gives a comprehensive historical chronology including brief sketches of the aircraft, accomplishments and contraptions built by those who have been factors in the progress of aviation.

Pictures and charts and sketches of aircraft and brief sketches of aviation pioneers form a valuable gallery picturing the progress of man's fight to fly. The author has personally timed most of the outstanding flights about which he writes in the sections of the book preceding the chronology itself.

The book not only makes interesting reading, but it is valuable as a reference work. It is published by Funk & Wagnalls Co., New York.

Electronic Flight Trainer Developed

Development of an electronic flight trainer was backed by G. W. Vaughan, president of Curtiss-Wright Corp. in a discussion of electronic contributions to aeronautics research and developments contained in his annual report to the stockholders.

The advanced-type synthetic flight trainer embodies the Dehnal process, Vaughan said, and is an electronic device which is described as so versatile that the flight characteristics of any single or multi-engine airplane may be realistically simulated. It is one of the "electromechanical" projects of Curtiss-Wright Development Division.

Important Factor.—When fully developed, the new flight trainer is expected by the company to be an important factor in solving some of the complex problems of

aircraft operations by facilitating ground training of flight personnel as well as presenting pre-flight analysis of new types of aircraft while they are still in the experimental stages.

RCAF May Expand Pacific Operations

Belief that Canada is planning greater participation in the Pacific war as the European phase nears its end is the fact that an air mission has been sent to the East Asia war zone, headed by Air Vice-Marshal L. F. Stevenson, the Royal Canadian Air Force, according to an announcement at Ottawa last week. Canada has had an RCAF squadron stationed in India for some years.

Purpose of the mission will be "to acquire information which would be of use to the RCAF should it be called upon to operate under adverse conditions when it is not familiar."

More to Follow.—The mission is expected to make preparations for more RCAF squadrons in the East Asia theater and for trustees of the British Commonwealth Air Training Plan to be sent to the Pacific. Stevenson operated with RCAF squadrons in the Aleutians campaign.

Other steps pending to succeed the mission by Canada is the war against Japan in the sending of Canadian Army officers for training to the Pacific area and the building up of naval strength on the Canadian Pacific coast.

Navy Air to Spend \$22 Million on Coast

Navy Department plans to spend about \$22,000,000 for construction and improvement at Naval air training stations in Central Canada, with nearly half the allocation earmarked for expanding facilities at the Alameda air station.

Included in the building program are hangars, radio transmitter houses, machine storage facilities and clinic rooms. A large part of the funds will be used for enlarging living accommodations and expanding runways.

Alameda.—The Oakland Naval auxiliary air station will receive \$2,115,000 for improvements, and the rest will be distributed among 13 stations where aviation ground and flight crews are trained for the Pacific fleet.



Deputy Aircraft Used in Training.—These airplanes won't fly. They are replicas manufactured by Ballair Aircraft Co., of waterbury, Conn., and are used for training purposes to which they have been valuable as teaching aircraft ordnance, for example, the procedure for arming and arming carrier-based combat naval aircraft.

Replicas of Planes Used in Training

Cost built largely by Ballair from non-aerogenic materials.

Little published, but highly important activity of the Navy in the Special Devices Division which has designed replicas of combat airplanes for training personnel.

Since being placed in production the aircraft among replicas, wing gun installation trainers, radar installation replicas, turret armament replicas and others have been valuable in teaching aviation ordnance the best procedure for arming and servicing carrier-based combat naval airplanes.

Planes Duplicated.—In appearance the replicas precisely duplicate the actual airplanes they represent except for those portions omitted because they are not needed for training. All dimensions of the replicas conform to the actual airplanes for the actual flight. The replicas weigh from 3700 to 3700 pounds without their load of bombs and the weight of the crew. This weight is between one-fourth and one-half the weight of the actual combat bomber.

They are constructed largely by Ballair Aircraft Co., Inc., from non-aerogenic materials such as plywood, cold rolled steel, mild steel, sheet iron, etc. The wheels, landing tires, are produced from wood. Landing gear struts are ingeniously made from iron pipe. Their cost is below ten percent of the cost of the actual airplane.

Schedule.—Construction time depends on the extent of the production line. Ballair, one of the largest producers, operates on a sched-

ule of one per day and has turned out as many as two or three a day.

Since starting some two years ago the Ballair Company is continuing to produce quantities of Navy Douglas Dauntless, Grumman A-63 and Curtiss Red Buller replicas, some of which have been sent to the Pacific and to England for training purposes.

\$12,883,347 Earned By C-W in 1943

Curtiss-Wright Corp. showed net profit last year of \$12,883,347 after taxes and depreciation and deduction of \$9,000,000 for post-war reserves, less than one percent to salary, subject to renegotiation, if any.

Major reasons for the lower ratio of profit to sales in 1943 compared with 1942, were given as (1) In the airplane division fixed price contracts were largely completed early in the year and the rest of the year the corporation was operating under a cost-plus-fixed-fee arrangement. (2) With inventory adjustments and termination in mind, substantial reserves were set up to cover contingencies. (3) Price reductions were made to the government during the year, thereby reducing the profit on all U. S. Government fixed price contracts.

Reserve Build Up.—Company notes that it is still building up a reserve for post-war expenditures and rearrangement of plant in the amount of \$9,000,000, which is deducted from 1943 income and which when added to previous similar reserves, amounts to \$24,311,000. Part of this is post-war reserves represented by an obligation of the government, proceeds of which will be available after the war.

Marines' Air-Ground Integration Perfected for New Pacific Action

Airmen of Corps are thoroughly trained in tactics and problems of landing forces at Cherry Point, N. C., base in order to effect closer teamwork between flyers and ground forces.

Marine Corps aviation is spending the trend toward direct close support of ground troops, and a closer integration of air and ground will be seen as advances through the Pacific campaign.

Emphasis in Marine aviation now is toward use of planes in highly developed coordination with ground troops. This emphasis has progressed so far and so successfully that the Marine air command would like invasion carriers from which Marine flyers can use their new methods of close support in perfecting landing operations of ground forces.

New Tactics Developed—These new methods make it possible for Marine Corps flyers to give consistent close support to ground troops. Newsmen recently were given an insight into the operational techniques on a visit to the Marine Corps Air Station at Cherry Point, N. C., where officers of the Marine Corps who have been trained as naval aviators come to be trained as Marine aviators.

Teamwork—When the flyers leave Cherry Point for the theaters of action, they have been welded into not only an air team, but also into a team with the Marines who fight on the ground.

Contrary to general practice, Marine flyers work directly with air liaison officers in the forward areas. It means that Marines stopped on the ground by enemy sniping parties can call upon Marine flyers for quick and effective support, without waiting for the request to go through higher channels.

Ground Tactics—Almost without exception, officers of the Marine Corps air arm in the rank of major or above have served at least several years as Marine Corps line officers. And now that the tremendous pressure of building a fighting organization in the Pacific has been eased, Marine Corps flyers who have lately worn their wings as naval aviators are being taught not only traditions of the Marine Corps but also are being schooled in operations of ground soldiers.

For the first two years of the war, young Marine flyers went to

the battle zones as naval aviators, having been through the army training as those pilots who went to the fleet. They had to become Marines in combat, guided and directed by older pilots with a Marine background. This took time and cost lives. Now this indoctrination is done at Cherry Point before war, groups, and squadrons go into action.

Elaborate Course—The result is a classroom of spirit that is not to be found in other services, and this in turn has been worked out into a classroom of tactical operations that integrates new techniques and may well form a pattern for post-war training of air and ground units. It certainly warrants the closest study, because it brings aviation back the absolute in cooperation with ground troops—virtually into their laps.

The Marines use every type of plane used by the Navy, in addition to one diverted from Army production that is presently fitted to the Marine Corps. The new air-packing B-25, this mobile artillery, which can pour forward fire from ten 30-caliber machine guns and a 75 mm. cannon into ground positions, or enemy ships, is an attractive piece of the latest flyers of the Marine Corps because it can pinpoint the most difficult enemy targets with highly destructive artillery fire as well as with machine gun strafing and bombing.

The Marines have always been a corps in which teamwork and close association and a highly-trained unit have paid dividends. Where this tendency in the service has been for the air and ground elements to grow away from each other because of the diversity of their spheres of operation, the Marines are bringing air to the ground and making Corps much a Marine weapon as the rifle, howitzer or bazooka. They are taking a new specialty and welding it into the traditional Marine Corps specialty of landing and beachhead operations.

Days Two—This training begins when pilots from the naval schools

report at Cherry Point. They are sent for an intensive two-week ground indoctrination course at Camp Larkin, better known to the initiated as Boys Town. Boys Town is as close to a Pacific field camp as it can be made by land. Col. Eugene B. Doherty, commanding officer of the Marine Wing Service Squadron at Cherry Point, who now serves in the toughest days of Guadalcanal, and Lt. Col. C. F. McKenna, camp commander. The course is complete with night maneuvers, 35-mile "hikes," landing maneuvers with air support demonstrations, demolitions, ground compass use, march security, field sanitation, map management, self security of bivouac and jobs, feint-hole making, and bayonet and knife fighting.

Then they return to the 350,000-acre grounds to be formed into the air squadrons, into groups and into wings, the sixth and last of which now is organizing at Cherry Point. The B-25's are going into separate groups to be used as necessary for the support of the other units are being organized and trained for night fighting and for other specialized jobs such as transport operations.

—W. G. K.

Deny Report WASPs To Become Air WACs

War Department officials connected with the program for the Women's Airforce Service Pilots, denied rumors that there were now plans that the WASPs would be inducted into the WACs. They pointed out several major difficulties to doing this, including the difference in age range between the two services, and the difference in physical qualifications. The age limit of the WAC is set by law and includes 31 years to 56, whereas WASPs are 18½ to 34 years of age.

A spokesman for Rep. Robert Hannaway, whose Civil Service Investigating Committee recently debated a bill in the House and Senate to authorize and increase enrollment of WASPs, said it was the intent of law to make the WASP a separate WAFB. He said he doubted that such action would be taken in the face of Congressional disfavor over utilizing untrained women when there are trained Army flying instructors who do the work.

Training of new WASPs was ordered discontinued June 26

Knudsen Proceeding Slowly With Changes

Will try to get Material Command close to business organization, but stresses no time limit.

Merging of the AAF's Material and Air Service Commands under Lt. Gen. William S. Knudsen is proceeding slowly with both commands retaining considerable individual status at present.

Gen. Knudsen, at his first news conference in Dayton, pointed out that there was no time limit for the reorganization, that he was going to try to get it as close to a business organization as possible and that eventually it would mean the consolidation of the commands, particularly of staff functions and elimination of overlapping and duplicating operations.

Points to Heavy Schedules—He was distressed at reports that the reorganization was an indication of schedule relaxation and delays in aircraft production and pointed out that schedules still call for 100,000 airplanes that year and that projected schedules also would show a greater total net weight.

Under present plans he will spend four days a week at headquarters here and the rest of the week on inspection trips. **May Step Up Production**—While awaiting further steps in the merger, observers already have seen enough to indicate that the consolidation and the Knudsen reorganization mean a further step-up in the AAF's aircraft production program if the war is prolonged.

Knudsen believes reorganization, properly planned, can take place rapidly and without disposal of the present postwar problem. He commented that it took about 60 days to convert after the last war. This time he expects it will take about eight months.

Pennroad Increases Airline Holdings

Airline interests of the Pennroad Corp. have been materially increased by the purchase of 35,000 shares of TWA Airways, S. A., common stock. According to the Pennroad semi-annual report, this acquisition cost \$12,500,000. Control of TWA was recently acquired by Transcontinental and Western Air.

Pennroad already holds 35,000 shares Northwest Airlines common,



FORMS OWN FIRM:

Charles H. Gale, deputy-leadership aviation writer, editor and publisher, has left HRL & Knudsen to establish Charles H. Gale and Associates to provide general industrial public relations counsel and research and editorial services in New York. A flyer since Jerry Gale, Gale was a founder and officer of the National Association of American and the Aviation Writers Association, is a member of Quot. Brennan and the Institute of Aeronautical Sciences. Before going with HRL & Knudsen, Gale was with Fairchild. He is a former assistant editor of Aviation magazine.

Army Releases Data On ASC Controls

40-foot board gives location and type of aircraft throughout U. S. and member state overseas.

Some of the workings of an ingenious control system by which the AAF's Air Service Command regulates its supply and maintenance operations have been disclosed by the War Department.

The administrative control room, which is the heart of the system, was shown to a group of aviation writers last May at Wright-Patterson Airfield. The administrative control room, which is the heart of the system, was shown to a group of aviation writers last May at Wright-Patterson Airfield.

Charts and Maps—The room contains scores of charts, two large metal maps framed with magnetic buttons and a 48-foot board with removable letters and numerals. This board gives the location and the type of Army aircraft throughout the United States and shows the numbers sent to various overseas forces as well as to Allied air forces. It showed by a recent check that the AAF has more than 10,000 aircraft.

An important part of the board shows the records of planes in the United States which are divided into three flyable and three grounded, the reason for grounding and the length of time grounded. The chart shows that last Fall combat planes grounded in the United States for parts was 3.6 percent, but that it is now less than 3.5 percent. In overseas theaters, the figure is even lower.

Maintenance Records—Other charts show expected life of a combat plane as 12 months, cost of maintenance as 12½ percent of combat plane's total cost, more than 500,000 personnel—civilian and military—work for the Air Service Command, a big bomber can get in no more than 24 hours before a major maintenance job is needed, tire wear on steel rail runways is only 50 percent of normal, about 25,000 disposable fuel tanks were sold to the Railway Administration this year, ASC stocks 500,000 separate supply items but hopes to reduce that figure to 300,000 by standardization. ASC shipped about a million pounds of supplies to the Pacific in the first quarter of 1944, ASC overhauled 3,650 engines a month and has rebuilt 120,000.

These figures point up the necessity of maintaining aircraft production at a high rate.

Reports flow in endlessly to the administrative control room, by mail and over a 48,000-mile teletype system. The board shows ASC's 12 large depots across the country, from installations on the Atlantic and Pacific coasts and from the theaters of operations.

Fixed Base, Feeder Discussions Planned

Questions of fixed base and feeder line operation as well as future aviation flight training will be discussed at the Aug. 31-33 meeting of the Eastern Institutions Council, American Training Society at Park Air College, East St. Louis, Ill. About 87 of the 68 AFS schools will have completed check training quotas by this time.

Discussions—Speakers will include Eugene E. Rydholm, Missouri aviation commissioner; Thomas Flaherty, City of St. Louis aviation director; Sam Armstrong, aviation editor, St. Louis Post-Dispatch; H. Wendell Coates, president, AFA; Carl Armstrong, assistant vice-president of Embury-Riddle Co.; and Oliver Pratt, president of Park Air College.

DPC Forms Surplus Plane Sales Units

32 centers designated for handling cargo; 17 fields to be used as storage depots.

Defense Plant Corp. last week created a division known as the Surplus War Aircraft Division, headed by James A. Garfield, which will work with the Civil Aeronautics Administration in processing sale of surplus planes. DPC also has designated 32 sales centers for the distribution of surplus planes and revealed that 17 fields will be used as storage depots in the preliminary phases of the program.

Sales Centers.—The sales centers are headed by established fixed base operators at key aviation centers throughout the country. Others will be added until all vital aviation sections are covered. The 32 designated are only those with whom arrangements have been completed.

The House Aircraft Surplus Advisory Subcommittee recently recommended to Surplus War Property Administrator W. L. Clayton that fixed base operators be designated sales agents for surplus planes in the personal use classification, with established industry practices of commissions and quantity discounts being given to encourage intensive speedy disposal of the surplus in this category, both to move the surplus and to lighten income in private flying.

Fixed Base Operators.—So far the bulk of surplus surplus is in the inventory classification, and light transport have been moving from surplus steadily. Large numbers of primary transports in the 125 hp and less hp class also have been transferred to surplus. Chief outlet for these planes probably will be operators at flying schools, since they are expensive for the personal type to maintain and operate.

All planes sold through DPC are being disposed of on an "as is" basis, as recommended in the House report. Full information on the planes is being supplied by the DPC through regional offices. Furthermore, at least, a bid basis is being used in the sale of the planes, although the House report suggests modification of this procedure in the interest of speed in disposal.

Following is a list of the various sales and storage centers and CAA regional offices.



MIDCENTRAL AREA HEAD

Col. M. S. Talbot, who has been War Department representative at the Hammer Manufacturing Co., aircraft plant taken over by the Army Air Forces after labor difficulties, has been appointed supervisor of the Midcentral Procurement District of the AAF Material Command. He succeeds Col. John G. Solomon, who has retained an overseas assignment.

Sales centers are located at: Arizona: Phoenix, Southwest Airways, Ray Air Force Airport; California: Concord Aviation Activities Co., Rosemead, Hasty Flying Service, Rosemead Airport, Quintero Airport, Great Plains Airways Co.; Florida: Ft. Pierceburg, Citrus County, Lakeland, Bay Harbor Airport, Titusville, Lakeland, Robert Sharp Flying Service, Fort Lauderdale Airport, Fort Lauderdale, Del. Beach Flying Service, Miami Airport; Illinois: White Horse Flying Service, Macomb Airport; Louisiana: New Orleans, Chaparral Air Service, Chalmette Airport; Massachusetts: North Duxbury, Johnston, Beech Air Service, North Duxbury Airport; Maryland: Laurel, Hughes Flying Service, Capital City Airport; Minnesota: Mankato Airport, Lyndale Flying Service, Vinton Airport; Missouri: Kansas City, Gay Aircraft Co., Gay Airport, Alerbrook, Brown Air Field Service, Inc., Mount Pleasant; Montana: Helena, Montana Flying Service, Montana Airport; Nebraska: Omaha, Central Aviation Corp., Mankato Airport; New York: Albany, Albany Airport, Albany Airport; Ohio: Cleveland, Cleveland Air Service, Akron Airport, Akron, Akron, Akron, Akron; Pennsylvania: Pittsburgh, Bettie Airport; Rhode Island: Narragansett, Narragansett Airport; South Carolina: Charleston, Charleston Airport; Tennessee: Nashville, Nashville Airport; Texas: Houston, Houston Airport; Utah: Salt Lake City, Thompson; Virginia: Alexandria, Arlington; Washington: Seattle, Seattle Airport; West Virginia: Spokane, Spokane; Wisconsin: Madison, Madison Flying Service, Madison-Rock Airport; Idaho: Boise, Boise Airport; Alaska: Anchorage, Anchorage Airport; Hawaii: Honolulu, Honolulu Airport; Guam: Guam, Guam Airport; Philippines: Manila, Manila Airport; Puerto Rico: San Juan, San Juan Airport; Virgin Islands: St. John, St. John Airport.

Utah: Salt Lake City, Thompson; Virginia: Alexandria, Arlington; Washington: Seattle, Seattle Airport; West Virginia: Spokane, Spokane; Wisconsin: Madison, Madison Flying Service, Madison-Rock Airport; Idaho: Boise, Boise Airport; Alaska: Anchorage, Anchorage Airport; Hawaii: Honolulu, Honolulu Airport; Guam: Guam, Guam Airport; Philippines: Manila, Manila Airport; Puerto Rico: San Juan, San Juan Airport; Virgin Islands: St. John, St. John Airport.

25 Firms to Exhibit At N.C. Aviation Week

Exhibitors by more than 25 manufacturers of over 40 lines of aircraft and aviation accessories are planned in connection with the first annual North Carolina Aviation Week, Aug. 16-20 at Charlotte. Lieut. Col. Frank E. Dawson, North Carolina wing commander of the CAF heads the general arrangements committee, and sponsor events of the week will include an assembly of the wing, the annual convention of the Carolina Aero Club, a meeting of the Southeastern Chapter of the AIAA, conference of airport operators and a post-war aviation planning conference.

AIAA to Participate.—Army Air and ground forces from North Carolina fields and stations will participate in the various programs which will emphasize North Carolina as the birthplace of aviation through the Wright Brothers flight at Kitty Hawk, as a center of civil and military aviation, and a pioneering area for post-war development of private and commercial flying.

"BLACK WIDOW"
P-61 NIGHT FIGHTER

Today, at Hawthorne, Northrop is turning out another "Bird". . . the first U. S. warplane designed specifically for night fighting!

The Black Widow carries a slipper load of . . . is the largest, most powerful fighter plane ever built.

It can "roll out" enemy planes in the dark like a house dog—let them "iron anvils" with the shattering power of 20 millimeter cannon and 50 caliber machine guns.

With the nose and beak of a vicious bomber, the power of a Diesel locomotive, the Black Widow has speed, too. No it's sweet to handle, safe to fly. It's hard to open from even the tightest turns. It takes off fast. . . lands so slowly it can down safely in the dark on small fields.

The Black Widow is both on four years of battle knowledge and long recognized Northrop skill and craftsmanship.

And on the Northrop group is producing the new P-43 for this year's battle. . . Northrop is pioneering still more advanced planes for tomorrow.

NORTHROP *Designers and Builders of the "BLACK WIDOW" P-61 Night Fighter*

NORTHROP AIRCRAFT, INC. • NORTHROP REID HAWTHORNE, CALIFORNIA • NORTHROP AIRCRAFT WAR PRODUCTION COUNCIL, INC.

PRIVATE FLYING

Beech Model 18 Popular Choice For Feeder Line Equipment

Twin engine monoplane frequently specified in route applications; order for 50 for post-war delivery placed by Oliver Parks; returning Beech-trained pilots expected to influence commercial operators in favor of craft.

By BLAINE STURRFIELD

A fair portion of the feeder line applications on file with CAB specify Beech Model 18 twin-engine monoplanes as proposed standard equipment. Oliver Parks has placed an order for 50. The company hopes the Board will rule favorably on single-engine planes for feeder lines, which would make the famous Model 17 biplane eligible also.

In addition to these prospects on the airlines, Beech will have a good market in the upper quality class for fixed base operations, for business executive use, and for private operation by men of means who have had war training in Beech planes and like them. Returning Beech-trained pilots continuing in that profession will influence many

commercial operators in favor of either or both models.

Design Changes Unlikely—Despite much talk about the rush for new post-war airplane designs, several companies feel that their engineering has been so sound that their current models cannot be basically improved at this time. Beech is one of these companies. Advance orders confirm their position. The first Model 17 biplanes were built in 1934, a decade ago, and the Model 18 two-engine monoplane dates back to seven years ago. Of course, constant improvements have been made on all variations of these two models.

Beech Aircraft Corp. plants at Wichita are occupied to capacity with war work. This work divides

into two projects: (1) Production of wing assemblies, including nacelle and landing gear, for the new Douglas A-26 attack plane; and (2) Model 18 for Army and Navy in several variations. Two Beech enterprises have been stepped for the time being: One is the Model 17 biplane, and the other is the twin-engine wooden trainer for the Army.

Quality Plant—Beech's plant, like its airplanes, has the look of quality, though it is small as major war plants go. All of it is privately owned, except one flight hangar, and the steel production line framing, plan and other accessories in that part of the plant given over to the A-26 wings.

The overage figures it can use its entire plant after the war, in production of its two plane models for the civilian market, for peacetime military demands, and for export. (Beech planes have been sold in about 35 foreign countries.) If the government does not have a place to store the A-26 production line facilities, immediately after war work stops, Beech figures they can be removed in the flight hangar, which belongs to the Defense Plant Corp.

Post-war Program—The fact that Beech will offer existing basic designs does not mean that they have no new post-war projects. It can be assumed that they have. It can be assumed also that they have many aviation durable goods in mind, in



Beech Models Sought for Feeder Line Equipment: At left, a Model 18, twin engine low wing monoplane, the type used in a quick survey of the West and Alaska, shortly before Pearl Harbor. The Model 18 can work at extremely high altitudes, car-

ries two multiple lens cameras and oxygen equipment. Model 17 biplane at right, an outstanding single engine multi-resistant type. Company officials hope single engine craft will be approved by CAB for feeder operations, which will make the Model 17 eligible



Aerial Shots in the News... made with

Fairchild CAMERAS



Official Photo U. S. Air Force

Remember this great aerial photo which recently appeared in the newspapers? And other aerial shots showing the destruction aimed on enemy installations and ships?

This photo, as probably were the others, was made with a Fairchild camera. For virtually all American-made aerial cameras used by our armed services bear this famous camera name.

For years prior to the war, Fairchild cameras were used extensively for exploring, charting, mapping and other work where extreme precision is required... as well as for military needs. Then, when we brought a demand for precision cameras in overwhelming numbers in an incredibly short period of time, the responsibility for producing them rested almost solely on Fairchild... for no other organization had the engineering background and the many skills essential for producing these truly precision cameras.

It is from such an organization... pioneers and leaders in the most exciting branch of the photographic sciences... that one naturally would expect the outstanding camera developments in the days to come.

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THE STORY OF AERIAL PHOTOGRAPHY IS THE STORY OF FAIRCHILD CAMERAS

AVIATION NEWS • August 1, 1946



Official Photo U. S. Air Force



Walter H. Beech
President

Olin Ann Beech
Secretary-Treasurer

J. P. Galy
Vice-President

case the demand for aircraft does not fully occupy their facilities. About 80 per cent of Beech's work is done by subcontractors. Thus, 80 per cent of their present volume would fully occupy present plants.

Rural manpower supply is good around Wichita, schools of workers is excellent, and the city is practically on the geographical center of the United States. Inland circumstances, management, and workers are pleased with the example of industry the war has brought them, and they would like some more.

Could Produce Big Plans.—Beech says aircraft is their business, and you can guess they won't make anything else unless it is necessary. Their large assembly buildings have a span of 146 feet and a height of 35 feet in the clear. This means they could produce big airplanes with very little change. And they don't say they won't do it.

While Beech was expanding their production rate to perhaps 95 times the 1940 rate, they also developed an incentive pay plan which, they say, gives workers the lowest wage rate, the highest take-home, and the biggest gain on pay-day in the entire industry. The cash incentive system has been adopted by some other sections of the industry. Of the record, in Washington, WPA officials say the Beech system is not in operation throughout industry because most management and all labor unions fear it as a precedent.

Uses Lot System.—Mostly because of the large number of types in process, Beech uses the lot system rather than straight line production. Parts are built in groups of 25, 50, or more, and put in position stereosides alongside the production line. When an airplane reaches that position, these parts are installed in it. Moving production line was thought unnecessary and expen-

sive. All the planes in Beech's stationary line are moved at the same time, in about 30 seconds, at the end of a shift, or before a new period. The stand-still line permits the direct connection of air and power lines, and the man can sit at regular benches convenient to the work, which does not move away from him.

Something like 600 of the bi-planes, and about 60 monoplanes were built and sold before the war. The biplane was tapered off when war came, and the all-metal highly versatile, monoplane was stepped up and is in heavy production. The T-2 photographic plane was used by the Army in hurriedly mapping the entire western part of the United States, and Alaska, shortly before Pearl Harbor. Location of the Alsea Highway was first ascertained on the resulting maps. The Chance have used the AT-11 gunner bomber trainer for aerial bombing. One of the Beech models performs certain functions with fighter mission, requiring great speed and agility.

Officers.—Walter Beech, president and chairman of the board, served in World War I and has over 10,000 hours in the air. He has more than 41 approved type certificates. During the past quarter of a century, his planes have won many prizes in all parts of the world. In 1939, Beech delivered about one-quarter of all the airplanes built in this country.

John Panzer Galy, vice president and general manager, joined Beech in 1935. Galy is a Cornell graduate and has an impressive background of engineering and sales management behind him. He is a lieutenant commander in the Naval Reserve and has a commercial pilot's license with instrument rating.

Olin Ann Miller (Mrs. Walter H.) Beech, secretary-treasurer, was office manager and secretary to

the president of Travel Air Co.—that was Walter Beech. She assisted in founding Beech Aircraft Co. in 1933. She is a member of the Kansas State Aviation Commission, Wichita Chamber of Commerce and Women's Aeronautical Association.

CAA Adds Technical Information Section

In line with its proposal to permit private flyers and aircraft owners to do routine maintenance and repair work on their own planes, Civil Aeronautics Administration has established a technical information section in each of its 79 district offices.

Bulletins.—This section will make available technical bulletins and other data on all types of aircraft, engines and instruments. Maintenance and repair bulletins issued by manufacturers will be on file.

Beech Lineup

Air Forces AT-7, long range navigation trainer, all metal, low wing, retractable gear, twin radials, powered with two P & W 480 hp engines, cover of five, chart table, synchro compass, stabilized draft sight for each of three modern, circular magnetic dials; the service readings AT-7A is the airplane version.

Air Forces AT-16, low-wing wood monoplane, retractable gear, two 200 hp engines, known as Beech model 26, not now in production.

Air Forces AT-11 advance bombing and gunnery trainer, same as AT-7, but with flexible guns and bomb racks for imitation of three-four men, has bomb racks.

Air Forces C-45 and C-45A, personnel transport, equipment similar to commercial aircraft, including anti-icing and de-icing devices.

Air Forces F-3 photographic plane equipped for high altitude, carries two multiple lens ranging camera mounted in tandem inside cabin, also oxygen equipment.

Navy JRB-2, -2, -3, and -4, special observation and utility planes, similar to C-45.

Air Force YC-40 and Navy GB-1 and GB-3 single-engine transports (Beech Model 175), similar to commercial 400 hp models.



Shipping found a windfall in low-cost luxury travel

The same transoceanic market that transatlantic shipping lines discovered 39 years ago is waiting for the introduction of low-cost pleasure travel by air.

In 1926, with immigration reduced to a trickle and the fleet also depleted of ships running almost empty, one enterprising line modernized three quarters and offered passage to students and teachers at rates 60% to 90% below others at first class. Within a few years, this "student" traffic equalled the first class business, and by 1937, "student" and similar low-cost traffic amounted to 75% of all transoceanic travel.

The same trend movement which

followed World War I was repeated when air transport rates met lowest budgets. A worldwide choice of destinations, within quick and comfortable reach during the span of a normal vacation, will attract thousands. More efficient, more economical air transport is not only ideal possible in the way, but the design of new equipment, Wright Cyclones make their contribution to reduced fare and maintenance costs, with a bonus in payload because of their lighter weight. Wright Cyclones pay their way.



Cyclones Save 3 Ways

LESS WEIGHT—MORE PAYLOAD
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Aircraft Engines

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A Division of Curtiss-Wright Corporation
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THE AIR WAR

COMMENTARY

Confusion on Horsepower Output Due to Engines' Varied Ratings

Commentator explains War Emergency Power categories and why one engine may be labeled with several sets of performance figures.

Recent announcements of the DeSile Allison engine with top ratings approaching 3,000 hp, and of the building of production test cells at Pratt & Whitney's Rust Hartford plant capable of handling engines up to 4,000 hp, when the appetite for great power packages grows or men in the war which a few years ago would have seemed fantastic.

However, when an aircraft engine is stated to be of 1,500, 2,000 or 2,500 hp, what does it actually mean? It so happens that, despite the classic definition of one horsepower being the ability to lift 33,000 pounds one foot in one minute, engine horsepower is one of the most relative things in the world.

Engine Ratings—For example, an aircraft engine may be rated at 1,400 hp, for takeoff at sea level, this may be 10 to 15 percent higher than the horsepower for normal operations. An altitude has a very definite effect on horsepower, this same engine may have a rating of 1,100 hp, at 30,000 ft. with supercharger in "high," for maximum continuous cruising power (such as used on a long-range escort mission, in the case of a fighter). The same engine may turn up 1,400 hp at 20,000 ft. in so-called military power for combat (maximum 15 minutes), or 1,600 hp at 27,000 ft. with War Emergency Power (for 5 minutes only)—is used in extreme military emergencies, W.E.P. includes water-injection and other all-out devices and trimmers.

This is the staff combat pilots need to know as a life or death matter, but engineers and aviation men also had these things in mind, among other reasons, to help in evaluating the claims of company spokesmen and advertisement, and in understanding

descriptions and comparisons of civil and military aircraft.

Recent Claims Analyzed—In company releases it is a pretty safe bet that the absolute top figure is used, and the result is sometimes misleading. In Lockheed's statement announcing the P-38 3 some months ago it was mentioned that the new model was powered by two 1,600 hp Allison engines, a rating 30 percent higher than the engines on the original P-38 (1,100 hp). The engines on the P-38 3 have a takeoff rating of 1,433 hp. Compare this with Allison's own statement in its announcement of the 30,000th engine about four months ago, which said that engine No. 1 of the V-17B series was rated at 1,000 hp, whereas engine No. 30,000 was rated at 1,500 hp.

the assumption being that the new one coming off the rated at this much higher. It so happened that the 3 was literally true about 6,000th engine, but it does not match that one particular can be copied up with wait and other gadgets routine burn producing.

Horsepower per cubic foot—The war 100 hp. per was regarded as a good. The German Daimler-Benz 12-cylinder V-type has means all over the world. And also the British Merlin American Wasp and Cyclocooled radial (the German was only in development 40). Through improved 100, precision manufacturing and better fuel, a cylinder ratio has advanced 133 and is now approaching 100 per cylinder for both cooled and air-cooled engines, not continuous. For example the British announced that the Merlin 50 specimen has a rating of 1,650 as compared with 1,450 years ago.

Sir Roy Fedden has re the new Rolls-Royce Gr cylinder engine as produced 1,700 hp (the engine has cylinders than the Merlin that this rate of nearly per cylinder is expected.



SUPERFORTRESS AT INDIA BASE

With one of the B-29's in the background, some of the 2nd and 3rd groups who helped build the great airport are shown as about their present work of keeping the field clear and ready for the great aircraft used in the bombing of Japan.



AIR STRATEGISTS OF SOUTHWEST PACIFIC MEET:

Planners and executors of the air war against Japan are shown here as they met for the first time since Gen. Keeney's new air army, Far East Air Force, was formed, embracing Maj. Gen. Basil C. Whitehead's 5th Air Force and Maj. Gen. St. Clair Streett's 13th. Left to right: Whitehead, Keeney and Streett.

crased shortly to nearly 170 hp per cylinder, or 3,003 hp. (The Daimler-Benz 603 is in the same class as the Griffon.) By the use of higher octane fuel the ratio may be ultimately raised to 500 hp/cylinder or 3,400 hp, as this engine reaches its full development. These figures make the announced 3,500 hp for takeoff of the 24-cylinder H-shaped Napier Sabre engine (in the Hawker Typhoon and Tempest) quite conservative (less than 100 hp. per cylinder). It is quite likely that this engine is now producing far more than the original announced figure. It also serves as a reminder that there are other yardsticks as to engine efficiency than the horsepower-per-cylinder, such as weight-to-horsepower, displacement-to-horsepower, etc.

► **American Radials**—On the basis of the announced takeoff hp ratings of the Pratt & Whitney Twin Wasp (R-1820, 14-cylinder, 1,500 hp.) and Double Wasp (R-2600, 18-cylinder, 2,600 hp.) appear conservative. The same goes for the Wright Cyclone 14 (R-3600, 1600/1700 hp.) and Cyclone 18 (R-3250, 2,200 hp.), which as their designations indicate (R equals cubic inch displacement, R meaning radial) are larger than the corresponding P & W engines.

Improved versions of the 1620, the 2600 and the 3200 are now in production, with at least 10 percent greater takeoff hp., while for short bursts, water-injection, by improving cooling and cutting down detonation, may add an additional 15 to 20 percent. Similar improvements will boost the

horsepower of American liquid-cooled models, bringing the Allison V-32 to 1,600 hp. plus, and the 24-cylinder V-3820 to 3,000 hp., and the Packard Merlin to 3,750 hp.

► **Big Larger Engines**—Other countries have 18-cylinder radials in production which may be expected eventually to have approximately the same ratings as our P & W and Wright engines. These include the British Centaurus, the German BMW 802, and the Japanese Sakae 35.

Much larger powerplants are on the way, however. These include H-type with 28 cylinders, which may ultimately develop 4,500/4,000 hp. or more. Another type is the four-row radial of which the new French Gnome-

Rhone 26-cylinder engine is a good example. This has four rows of seven cylinders and fan-cooled cooling, and was developed from the Gnome-Rhone 14-cylinder (1,800 hp.) and the 14-cylinder engine of 3,300 hp. The 26S is said to produce some 5,700 hp. at 23,000 feet. It is quite likely that one of the Pratt & Whitney engines which is expected to be handled in the 4,500 hp. test cells is of this type, with similar types believed to be under development in Germany and probably in England as well.

NAVIGATION

59-Plane Red Ace Got 48 with P-39

The top Allied ace of the war, credited by the Russians with shooting down 59 Nazi planes, shot down 48 of these planes while flying in a Bell P-39 Airacobra. Bell officials said they have been notified. He is Lieut. Col. of the Guards A. I. Pokryshkin.

Nine other Red Air Force aces have shot down more than 20 Nazi planes each in the Airacobra, according to figures given Bell Aircraft Corp. by Lieut. Gen. L. C. Rudenko, chairman of the Russian Purchasing Commission in this country.

► **Fewer Soviet Planes**—Half of the American planes sent to Russia have been Airacobras, a top favorite with the Red Air Force, in large measure because of the 37 mm cannon mounted in the nose of the ship for use in ground strafing as well as in aerial combat.



CHINESE HUTS HIDE U. S. PLANES:

American warcraft undergoing repairs are stored in these carefully camouflaged structures in a dispersal area in China. A Chinese soldier, with fixed bayonet, is shown standing guard as mechanics repair craft.

Phillips - - - Salutes



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SMALLER REFINERIES COMPANY BLENDED WITH OTHERS
Primary supplier of the finest gasoline to the Army, Navy, and Marine Forces

PERSONNEL

John B. Walker, assistant to the vice-president of United Air Lines in New York, has been directed vice-president in charge of sales at the Aircraft Accessories Corp. of Kansas City, Mo. Walker has been a director of Aircraft Accessories for the past two years and now will direct the present and post-war sales program of the aircraft man-



John B. Walker

facturing company. The headquarters will be in New York prior to moving United. Walker headed Transcontinental & Western Air's traffic department in Kansas City. He is the author of several aviation books and a director of the Aviation Association of Greater New York, the Airline Terminal Corp. of New York, and is a member of Mayor LaGuardia's special events committee and consultant to the Museum of Science and Industry in New York.

James A. Warren has been appointed cargo traffic manager of American Airlines, Inc.,



succeeding M. D. Miller, who recently was elected northern vice-president of the company.

Warren has held executive positions with ground carriers for eleven years prior to joining American in 1943.

C. Reidel Moore, president of Petroleum-Control Airplane, has been appointed chairman of the Airlines Division of the National Industrial Information Committee, a group of American business men.

George L. Newman, former manager of the Fort Worth Division of Consolidated Vultee Aircraft Corp., has been named vice-president of the Globe Aircraft Corp. of Fort Worth, and is that capacity will have charge of production. Globe is completing its first wartime program, building first-engined AT-19s, and now is well advanced on several other projects, including building the new section of the Curtiss-Cowanda.



Frank N. Knechtel has joined the staff of Aviation Associates, Chicago, as special consultant on recapitulation and termination of war contracts in the aviation industry. Knechtel has been examiner for Reconstruction

Finance Corp., special representative for Defense Plant Corp., and negotiator for the War Department.

J. B. Swanson, former procurement supervisor for Globe L. Martin Co., is manager of Adair Precision Products Corp.'s new engineering service



Swanson

Pinson

office opened in Baltimore. Adair also announced that George R. Pinson, former western sales manager for an electric refrigerator manufacturer, will manage their new engineering service office at Rockefeller Center, New York.

Hugh C. Robinson, former director of Waco Aircraft Co., subcontract division, will direct the new Waco West-



RUSSIANS AT FAIRCHILD CAMERA PLANT

New photographic developments at Fairchild Camera and Instrument Corp.'s plant in New York are inspected by three high-ranking officers of the U. S. S. R. Navy. Russians are forest here been guests of Fairchild cameras and other sensitive instruments for many years. Pictures, left to right, are: N. Lebedev of the Soviet Embassy at Washington, Lieut. R. P. Bickford, aide to Rear Admiral G. S. Bryan of U. S. Navy hydrographic office, Correspondent-Engineer V. J. Grubsky, senior engineer of the U. S. S. R. Navy hydrographic office, Commodore E. G. Glushko, deputy chief of the Russian Navy Hydrographic office, P. V. Kuznetsov, Fairchild export sales division, and Commodore R. V. Maslov of the Soviet Embassy.

DZUS for simplicity



Sturdy designed spring with thick head and

A quarter turn and—click the Dzus spiral slot fastener is open or locked

Today, more than ever before, the simplicity of the Dzus design is the main reason for its wide acceptance in the aviation industry as the dependable fastener. It's easy to install, quick to operate. No knurls or gadgets interfere with its swift operation. No special tools required to open or close the Dzus spiral slot fastener. Vital points on the modern airplane requiring frequent inspection and servicing are instantly accessible. This helps slash maintenance costs.

*The word DZUS is the registered trade mark of the Dzus Patent Co., Inc.



RAYLON NEW YORK
In Canada—Raylon and Power Engineering Corp. Ltd.

Easy to Install

Easy to Operate

missions division. Walter H. Miller, former chief of freight section, subcommittee division, was promoted to fill the vacancy created by the transfer of Hubbs.

Major Vernon M. Deacon, after two years' service with the Army Air Forces, has been released and has returned to Pennsylvania-General, Arizona where he will serve as co-ordinator of production scheduling in the maintenance and overhaul department.

Brig. Gen. Field Hertz, a veteran of the Solomon Islands, who has been appointed Director of the Division of Aviation, U. S. Marine Corps, succeeding Brig. Gen. Lewis R. Woods, who has been assigned to the field.

Major A. Barnes will serve as city public manager for the Pennsylvania Central Airlines at Pittsburgh after having been "on loan" to the Air Transport Association for the past few years, where he worked directly with the Air Transport Committee in the administration of priorities. He served as a liaison officer between the air forces and the nation's commercial airlines.

Maurice H. Chan has been appointed to the newly created position of superintendent of commissary for



Brassfield Airways. Chan joined Brassfield in 1939 as a cargo handler and was promoted to transportation agent and later to supervisor of commissary at the Brassfield, Dakota, base. He will supervise food service and passenger requirements in his new position.

William K. Seigler, manufacturing adviser for Curtiss-Wright Corp., propeller division, has retired after 13 years' active service. Seigler joined Wright Aeronautical Corp. in 1929 as vice-president and manager of the St. Louis Gipsy Engine plant and later joined Curtiss-Wright.

Via Admiral John H. Tegen, formerly chief of the Navy's Bureau of Aeronautics, and currently Deputy Commander in Chief, Pacific Fleet and Pacific Ocean Area, was awarded the Legion of Merit for his services as Commander Air Force, Pacific Fleet. Admiral Tegen was one of the first three officers assigned to aviation duty.

Brig. Gen. Lyman F. Whitson was presented the Legion of Merit by Maj. Gen. O. F. Boland, chief of the Air Service, for his "outstanding and meritorious conduct in the performance of outstanding services as director of base services and chief, Air Services Division, Office of the Assistant Chief of Air Staff, Material, Maintenance and Distribution.

THE NEW VIEWS—



C. Edward Leasure

C. Edward Leasure, chief examiner of the Civil Aeronautics Board, is a man whose position, coupled with good humor and deep interest in aviation have made him well known and respected throughout the air transport industry. His main job with the CAB is to keep its Proceedings Division, which handles all types of cases, running smoothly, but of late he has been an informal ambassador of good will for the Board, filling speaking engagements throughout the country.

He is a native Washingtonian, born on New York Ave. in 1886. He attended public schools there and received a B.S. in Civil Engineer-

ing from Catholic University in Washington in 1910. After serving as an engineer with several transportation companies and with the Interstate Commerce Commission, he joined the legal section of the ICC in 1918. The following year he received an LL.B. degree from George Washington University. He served as an ICC examiner until 1933 when he was transferred to the ICC's Bureau of Air Mail.

He helped set up CAB machinery. In 1939, when the Civil Aeronautics Authority was established, Leasure assisted in setting up the machinery. As an examiner he handled many of the early "grandfather" cases. In 1939 he became Chief of the Board's Formal Proceedings Section. He was made Chief of the Proceedings Division in 1949 and advanced to the newly created position of Chief Examiner in 1953.

In his present position, he is in charge of all formal and informal proceedings, reviews all examiner's reports, is responsible for preparation and release of the Board's opinions and maintains liaison with other governmental departments.

Leasure (rhymes with pleasure) lives in Washington with his wife and six children, two sons and four girls, ranging from 4 to 14 years, all of whom have flown. He prefers to spend most of his spare time reading and talking about aviation. He admits he takes golf, but says he can't find time to play. On Sunday, he and his entire family turn to signature as members of a garden club in Virginia.

TELLING THE WORLD



DEPT FOR AAF GENERAL:

Lt. Col. M. L. Harnon (left), commanding general of U. S. Army Air Forces in the South Pacific, is awarded the Distinguished Service Medal by Gen. Henry H. Arnold (right) in Washington.

Lockheed Aircraft Corp. presented its award during July over the Columbia Broadcasting System. The program is being staged by William M. Hobson, CBS's staff producer and director, and stars Herbert Marshall of the screen. Stephen Lombard is author of the on-screen script, while John McIntyre is announcer. The comedy-drama play is entitled "A Man Called X" and is based from 6:30 to 7 p.m. PWT on Mondays. It will be heard over the Blue Network from 7:30 to 8 p.m. PWT on Saturday nights.

William R. Boyd, formerly western manager for the Curtis Publishing Co., has joined the staff of the War Advertising Council as associate co-ordinator on sponsorship activities. Until recently, Boyd was with the U. S. Transport Command, flying the north and south Atlantic routes for two years. He will serve on a volunteer basis.

what has this to do with broaching?



So, too, with Broaching . . . from a primitive type of drilling to present day precision production, Broaching's principles have been applied until they now cover the entire metal-working field. Just as the use of the wheel expanded from the crude vehicle stage to its present use in diverse sizes and shapes . . . in various machines making machine tools, machines, and vehicles for Man's even greater comfort and convenience . . . just so will Broaching become an increasingly powerful influence in making machines to turn more and better and cheaper products to better Man's work and increase the joy of living.



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Cylinder Pins
Monobloc Aluminum Pistons
Piston Pins
Counterweight Clock Pins
Monobloc Magnesium Pins
Cylinder Neck Drive Mats
Henderson and Ground Pins

PARTS FOR PROPELLER ASSEMBLY

Monobloc Magnesium Pins
Piston Rings

REQUIPMENT FOR MAINTENANCE OF AIRCRAFT

Piston for Oxygen Compressor
Piston Rings for Oxygen Compressor
Pin for Oxygen Compressor
Pins for Air Compressor
Piston Rings for Air Compressor

LANDING GEAR PARTS

Monobloc Aluminum Pistons
Piston Rings
Henderson and Ground Pins

AIRCRAFT PRODUCTION

Transfer of U.S.-Owned Plants to Peacetime Work Urged by Wilson

APB chairman tells Murray subcommittee of major contribution to future of country in program; urges conservation of plane makers' skills through establishment of human aircraft production reserve.

The future growth of the country will be aided by the transfer of large government-owned plants to peacetime pursuits, Charles E. Wilson, chairman of the Aircraft Production Board, has told the Murray War Contracts Subcommittee of the Senate Military Affairs Committee. He urged that the new-found skills of workers be maintained as a human aircraft production reserve.

Long-range policies toward the government-owned airplane plants arise from the fact that most of these plants are situated in areas that have never been sections of metal-working industry. Mr. Wilson mentions Dallas, Fort Worth, Wichita and Atlanta, and he cites the newly named industrial management and labor, and the country's trade and services built up at least partly in scale to the increased population and income in urging that these new industrial facilities and skills be transferred to peacetime pursuits.

Hopes to Avoid Ghost Cities—The democratic development of our country will be aided if we can find peacetime industries for these new centers and we will avoid the harmful effects of creating ghost cities," Mr. Wilson asserted.

A policy of working with and encouraging interests desiring to create new enterprises to continue activity now being carried on by the government-owned airplane factories, together with cooperation with Chambers of Commerce and Committees for Economic Development and with established firms in other regions that want to extend their production to these communities is urged.

Complicated Job—But this program cannot be handled by the War Production Board alone or even in major part. It involves, Mr. Wilson suggests, credit ar-

rangements, transport facilities, raw materials supplies and other factors concerning a number of government agencies which require a positive overall policy.

This policy would coincide with the interests of the Air Force. As I understand it the Army Air Force wishes to retain ownership of the great government-owned bomber plants because they are strategic in maintaining preparedness after the war. In some cases, the Army will wish to keep these plants in partial production. In every case, the Army will wish to lease all or part of the facilities in responsible peacetime enterprise. This will serve the purpose of keeping in the community

the industrial know-how and skilled labor force which have been built up during the war—the main requirements for a speedy resumption of mass aircraft production when required by the Army. Even if in some cases the Army may require keeping the plant intact, thus making it impossible to convert to non-aircraft production, it will be desirable to develop other industries in these areas in order to retain in the community the industrial base required to bring the war plants into production quickly and speedily.

Vulnerability Factor—It is apparent that Mr. Wilson recognizes the impracticability of transferring aircraft production from plants situated in sections vulnerable in time of war but advantageously situated for a variety of reasons for normal production. This was one of the major points of Under-Secretary of War Patterson before the Murray Subcommittee.

But the statement of the Aircraft Production Board chairman did indicate that it might be advantageous both for aircraft manufacturers and the country if manufacturers did examine new enterprises of various kinds for these inland plants. Wilson's suggestion indicates that the government, recognizing the economic impracticability of these inland plants for normal produc-



PATTERSON TRIES B-29 TUNNEL

Under-Secretary of War Robert P. Patterson emerges from the tunnel connecting two sections of the Boeing Superfortress. Patterson inspected the huge bomber at the Wichita Boeing plant.

PRECISION WORKERS IN IRON, STEEL, ALUMINUM, BRONZE, MAGNESIUM



McQUAY-NORRIS MFG. CO. (AIRCRAFT DIVISION), ST. LOUIS, U.S.A.

CANADIAN PLANT, TORONTO, ONTARIO

ture processes, is at least considering making their use economically feasible. Certainly aircraft companies would be best suited to operate such a plant with proper plans for recuperation, even though the prototype product they manufacture in these plants is something not related to aircraft.

Mr. Wilson, on whose shoulders has fallen the major burden of re-evaluating the aircraft program, also told the Murray Subcommittee that a war mobilization plan for the aircraft industry should be prepared that is more would far outweigh anything heretofore carried out. "With the experience we have had," he said, "I am sure that this plan, both in its overall aim, and in its detail, will be far superior to anything we had at the outset of this war."

Ideas Pay \$22,000

Lockheed Patent Remuneration Plan for employees has brought payment of \$22,000 to eleven Lockheed workers in the first distribution made under the plan. The payments are in addition to those made under the company's work simplification plan. Under the patent remuneration plan, em-

ployees are given a fixed share in all profits the company receives from licensing inventions to other companies, the company said.

B-17 Flies 1134 Hrs. Without Overhaul

Four Wright Cyclone engines mounted in a Boeing B-17 Fortress have set a new record for sustained performance, flying 1,134 hours and 15 minutes without overhaul. Official service reports to Wright Aeronautical Corp. show the four engines were removed for overhaul after breaking by 56 hours the previous mark recognized by the Air Service Command.

The previous record, 1,075 hours, was set by another Cyclone-powered Fortress at Towell, N. M. The new mark was set at Tyndall Field, aerial gunnery school at Panama City, Fla.

47 Days in Air—In setting the record, the Fortress flew a total distance of 206,000 miles, spending more than 47 days of full time in the air. In all, three Fortresses have passed the 1,000-hour mark with all four engines operating without overhaul.



LARGEST CURTISS PROP.

This 16-foot, eight-inch propeller is now in quantity production at the Caldwell, N. J., plant of Curtiss-Wright Corp. The hollow metal propeller, largest in quantity production in this country, is designed to absorb approximately 2,600 hp. It has been under development for three years.

Glider Repair Depots To Be Set Up by U.S.

A repair depot for gliders damaged during maneuvers with equipment to cost several million dollars, is being set up by Commonwealth Aircraft, Inc., at Kansas City, where the company has been manufacturing military gliders for two years.

The company's glider construction program was completed July 1 and the company is engaged now in retrofitting for the repair program, H. H. Goss, plant manager, revealed.

U. S. Furnishes Equipment—Goss and a new working force would be required immediately for the program, and that equipment needed to fulfill the new contract will be furnished by the government. This is the first indication that a glider repair program is being carried out, since gliders generally have been considered expendable in military operations.

The repair depot will be at the former American Royal Livestock Pavilion, which was converted for the glider manufacturing program Commonwealth, a subsidiary of Empire Dairymen Corp., of New York, also operates a factory at the Kansas City Fairfax Municipal Airport. It is a successor to the Bonwein Airplanes and Engines Corp.



ORVILLE WRIGHT SEES 50,000th CECO CARBURETOR

Chandler-Ross Corp. celebrated a 50,000 production mark in its manufacture of carburetors for the armed services recently. Examining the carburetor (left to right, Dr. Orville Wright, Col. Edward A. Deeds, chairman of the board of National Cash Register Co., and B. H. Gilpin, CECO vice-president.

B-26 comes in 2000 hp

These MOTOR MOUNT

QUICK

2000 hp

Does this RUBBER-TO-METAL JOB Suggest any NEW APPLICATION?

Take thousands of terrific explosions per minute in the greatest power plant ever devised... add the sudden stresses of pulling out of power dives—the twists of combat maneuvers, the strains of holding a dead engine... and you get some idea of the world's number one vibration dampening job.

This problem is licked on many planes today by the motor mounts shown above. Our work is a contribution to the engineering of the core assembly: a series of steel plates bonded together and to the case by rubber in such a way that it passes all Air Corps tests for adhesion and shear rate.

This example suggests our ability to handle rubber-to-metal adhesion and may indicate to you new applications for power products. We will be glad to place our engineers and laboratory at your disposal. Write for the IDEA chart and suggestion blank.

Also Precision Molders of many other parts of synthetic rubber to meet close specifications now called for by the Air Corps.

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MADE TO THE RIGID
SPECIFICATIONS OF
U. S. ARMY AND
NAVY ENGINEERS

The miracles of engineering that have made possible the age of flight are repeated in the perfection of the fuels and lubricants developed to meet the needs of aircraft. Mid-Continent was called upon to produce oils for the U. S. Army and Navy and our Allies. D-X Aviation Oil is the result. Now available—subject to military priority—for civilian use. Inquiries invited.

MID-CONTINENT PETROLEUM CORPORATION
TULSA, OKLAHOMA

J. & H. Financing Assailed by Union

Members said that \$15,000,000 stock sale plan fails to protect their rights.

The \$15,000,000 stock sale plan of Jack & Heintz Co. is "unbelievably indiscriminate and unprotective of your rights," the Machinists Union has told its members who are "associates" in the Jack & Heintz plant in the Bedford suburb of Cleveland. Despite this attack by the union, William S. Jack last week claimed \$3,999,666 had been subscribed by employees of the company.

As pointed out in AVIATION NEWS (July 24, Page 22), the 150,000 shares being sold at \$100 a share will be held under a voting trust for a period of 10 years, and it is this provision that is most heavily attacked in a message sent Jack & Heintz employees by Matthew DeMora, president of District 54, International Association of Machinists. Jack is a former business agent of the union.

► **Analyzed by Law Firm—DeMora**

said that the plan had been employed at the request of the union by the law firm of McAfie, Grossman, Hanning and Newswisser, specialists in corporate finance. Company had net worth of \$154,810, according to the Apr. 30 balance sheet. Jack and his partners, Ralph M. Heintz and William R. Jack, have assigned themselves 50,000 fully paid and non-assessable shares, which alone carry the right to buy additional securities which may be issued.

The union asserts that the partners are renegeing, for their experience and asset value of \$254,010, the equivalent of what would cost the employees \$2,000,000. It points out also that subscriptions are binding regardless of total, that the "sketchy prospectus" fails to show great managerial ability in the present operation of the company, that "it is one thing to operate successfully when there is no competition, when the government is the sole ultimate customer, does nearly all the financing and furnishes nearly all the facilities, and it is quite another thing to operate successfully under competitive

conditions which will prevail after the war. . . ."

► **Limited to Employees—Sale of the stock is being rigidly limited to employees who are residents of the state of Ohio.**

Jack termed the union criticism "sneaky" and predicted that it would not halt the sale of the balance.

Convair Converts Plane as Ambulance

Completion of design and test conversion work on an ambulance version of the Consolidated Vultee Laborer Express has been completed at the Fort Worth plant and a conversion program from additional models will be started. In modification centers, it was learned last week.

Fifteen convertible liners, each of which can be removed for use in the field, are fitted in the plane, each with special installations to provide oxygen readily available to wounded passengers. With litters removed, canvas troop benches provide seats for 32 persons, making



CANADIANS REVAMP BABY FLAT TOPS:

Crews erect ships are being modified to meet new British and American specifications in Vancouver's Burrard drydock. Ships come in from active service or from American yards and modifications, such as which is steam-heating all guns as they can perform.



in any climate, are made. Another important change is in lengthening the deck 15-feet making new deck length 463 feet. In picture on right two sections are in place. Photo on left shows testing of lights on turn. Gertie gun, rammed on the vessels at Vancouver.



On April 17, 1944, TWA's new Lockheed Constellation hung up the record of 6 hours 58 minutes for non-stop flight, Burbank, Calif., to Washington, D. C. Average speed: 338.17 M.P.H.

Constellation, developed for Transcontinental and Western Air Lines by Lockheed Aircraft Corporation, is going direct to the Army Air Force Transport Command for the duration. But when the war is won, they will carry 37 passengers coast-to-coast on regular nine-hour flights, or fly to London and Paris overnight.

Flight characteristics of the new giants of the air are matched by advances in the Link Trainer—which teaches aviators flying on the ground—safely, without cost of lives or gasoline.

TWA inaugurated Link training March, 1938. Links are now in operation in Kansas City, Chicago, New York, Burbank and Washington. Captains take Link refresher courses every month; 40 pilots receive 20 hours of Link time in basic; 30 hours in advanced courses. TWA has given Link training to 500 commercial transport pilots, to 500 other pilots under the War Training Service Program of the C.A.A.

When you travel on United States air lines, you know that your pilot is trained, in case of need, to fly by instruments alone.



TWA LINK INSTRUCTOR, AL MCWHORTER, checks a "go-down" chart with a student of instrument flying, formerly Link Instructor for the R.A.F. McWhorter trained many of the Ferry Command pilots who made the first vital deliveries of bombs to Europe.

LINK AVIATION DEVICES, INC.

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LINK MANUFACTURING COMPANY, LTD., Gloucestershire, Gloucester, Canada
Link Trainers, Aviation Simulators, and other products contributing to the safety of flight

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FINANCIAL

Sale of Aviation Officials' Stock In Own Firms Reported by SEC

Disposal of 1100 shares of Pan American Airways by two vice-presidents and director, and Cessna changes, feature trading by ex executives in equities of their companies.

Sales of 1,100 shares of Pan American Airways System capital stock by three officials of the company featured airline "insider" stock trading during June, according to reports made public by the Securities and Exchange Commission.

John C. Cooper and Bernard F. Peyer, Jr., vice presidents, reported sales of 399 shares each, reducing their holdings to 1,142 shares and 1,800 shares, respectively. Robert Leighton, a director, sold 500 shares, leaving him an ownership of 1,000 shares at the close of the month.

Frye Buys TWA Shares—Jack Frye, president of Transcontinental & Western Air, Inc., filed a report covering the purchase of 293 shares of his company's common stock during May. At the end of that month, Mr. Frye owned 3,994 shares of TWA common. John C. Franklin, a vice president of TWA, sold 53 shares in June, reducing his holdings to 150 shares.

Thomas Wolfe, vice president of Western Air Lines, Inc., sold 393 common, giving him a balance of 3,885 shares in his portfolio at the close of June.

Brownell—Charles E. Beard, vice president of Bristol Airways, Inc., bought 366 Bristol common on June 8 and sold a like amount on June 15, leaving his holdings of 1,182 shares unchanged at the close of the month.

A late report filed by Edwin White, a director of North-west Airlines, Inc., showed the purchase of 100 shares of the company's common in April through exercise of warrants. His holdings at the month end were 333 shares.

Lockheed—Among the aircraft manufacturers, Lockheed Aircraft Corp. led the group with sales of 3,888 shares of the capital stock by Robert E. Gross, president, and sales of 691 shares by G. H. Gross, vice president. President Gross' holdings at the end of June

amounted to 21,381 shares, while G. H. Gross held 7,900 shares. Harry L. Dizon, a director of Lockheed, bought 100 shares, which represented his entire holdings in the company at the end of June. A report for May filed by Moe Short, a vice-president, showed sales of 568 shares, leaving him ownership at 1,301 shares.

R. J. Lindquist, vice-president of Curtiss-Wright Corp., sold the 300 shares of common stock held in his portfolio and bought 180 shares of Class A stock, which made up his entire holdings in the company at June 30.

Soler Aircraft—Officials of Soler Aircraft bought 2,000 shares of the common stock during June and 900 shares of the Preferred A stock. Edmund T. Price, president, purchased 1,330 common, increasing his holdings to 21,829 shares.

In addition, Mr. Price owned 106 Preferred A at the close of June. Ralph E. Rollins, a director, increased his holdings to 1,688 common through purchase of 900 shares. Ray E. Craig, an officer and director of the company, bought 556 common and 566 Preferred A, giving him an ownership of 1,855 common and 993 Preferred A at the month end. L. D. Bowman, an officer, bought 300 common, raising his holdings to 893 shares. Mr. Bowman also holds 90 Preferred A. William W. Cleary, a director, bought 300 Preferred A, which represented his ownership in the company at June 30.

Lawrence D. Bell, president of Bell Aircraft Corp., sold 6,603 common, reducing his holdings to 16,981 shares. Charles L. Beard, vice president and secretary, sold 166 shares, leaving him 393 shares at the close of the month.

Bellman—G. M. Bellman, principal stockholder of Bellman Aircraft Corp., bought 656 common, increasing his holdings to 46,400 shares. John S. Joubert, a director,

sold 468 shares, his entire holdings of Bellman common.

Jane M. Ladlow, executive vice president of Consolidated Vultee Aircraft Corp., sold 1,500 common, leaving him 6,130 shares June 30.

The SEC reports show that Dwight S. Wallace, vice president and treasurer of General Aircraft Co., became principal stockholder of Cessna through a stock transfer of 25,001 common on June 1 and a stock dividend of 29,646 shares on June 15. Mr. Wallace's holdings at June 30 consisted of the 50,000 shares. The shares apparently came from the block of stock he held jointly with Dwayne L. Wallace, president and general manager of Cessna, since the SEC reports show that the 50,000 shares held jointly were transferred out of the account on June 1.

Stock Dividends—Several other officials of Cessna received stock dividends during June. Frank A. Beutler, secretary and controller, received 400 common, increasing his holdings to 500 shares. Gail McDonald, a director, received 288 common, giving him an ownership of 400 shares, while Tom Seiler, chief engineer, received 510 shares, making his ownership 1,320 shares at the end of June. Will G. Price, a director, reported receipt of 10 shares through a stock dividend, raising his holdings to 20 shares.

Albert R. Jacobs, vice president of Jacobs Aircraft Engine Co., sold 3,980 shares during June, reducing his holdings to 1,652 shares. J. A. Harris, 3rd, also chairman reported the gift of 840 shares in May, leaving his holdings at 251,547 shares.

Irving Air Chute—James C. Williams, director of Irving Air Chute Co., Inc., bought 100 common, representing his holdings in the company at June 30.

Randolph C. Walker, president and principal stockholder of Aircraft Industries Corp., sold 1,000 common, leaving at the close at 46,000 shares. Timothy R. Colvin, executive vice president, reduced his holdings to 6,000 shares through sale of 2,000 shares.

Harold L. Chase, president of Air Associates, Inc., sold 400 shares, leaving his ownership at June 30 at 325 shares.

Financial Reports

Liberty Aircraft Products Corp. has declared a dividend of 59 cents on its common stock, payable August 11 to stock of record Aug. 1. Its previous payment was 25 cents on May 15. A special shareholder's

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Aviation is changing so fast today that even war pilots with thousands of hours, and veteran aviation mechanics will need advanced training to keep up with its advancements and developments.

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So, while we are now 100 per cent engaged in war work, we have discarded our old courses, and have answered all inquiries with "Sorry, no more enrollments till after the war."

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SUBJECT	RPM	SECTION
LOW	800	
LOW	900	
MEDIUM	1200	
HIGH	15	
USE		

GENERAL
CONSTRUCTION
MECHANICAL
SECTION
REMARKS
-VARIABLE
-POSSIBLE
-SOLUTION

TRANSPORT

Martin Submits Preliminary Data On 30-Place Short-Range Plane

Drawings and other pertinent material on projected short-haul transport for post-war production, designed to meet ATA-A1 specifications, are turned over to Requirements Committee.

By MERLIN MICKEL

Preliminary data and drawings on a 30-passenger, twin-engine short range transport plane designed to meet Air Transport Association specifications for a post-war cargo and passenger short-haul aircraft have been submitted to the airlines and ATA's Aircraft Requirements Committee by the Glenn L. Martin Co.

Martin depicts several versions, both high and low wing, with varying passenger and cargo arrangements. Accompanied by complete engineering studies, the drawings are the first received by the ATA on its requirements for what it calls the A1 classification. This is the shortest range type the committee has considered, and contemplates a plane to haul passengers, cargo or both on airline services where distances are short between scheduled stops.

Douglas "Skybus"—Douglas Aircraft Co. recently released specifications on its Skybus, post-war feeder line transport, with obvious

attention to some of the committee's ideas, but the design was not submitted to the requirements group as Douglas' version of the ATA-A1.

The company that makes the Mars, however, identified its proposed Model 304 as a short range transport designed to meet ATA-A1 specifications. Purpose of the study, Martin says, was to evaluate various design changes such as wing loading, high vs. low wing types, convertible vs. non-convertible cabin arrangements and various types of loading "in order to arrive at an economic and desirable design for the A1 airplane." Sections of the study deal with operating costs, aero-dynamics, weights and wing loading.

Preliminary designs—Models 303-11 and 303-12 are presented as preliminary designs to meet all ATA-A1 requirements except use of airport. Martin found that the most economical airplane had a wing loading requiring a 3,559-ft.

airport at sea level, although with a slight decrease in wing loading a 3,660-foot requirement can be met "with a very small change in operating costs."

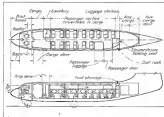
If the operator desires to meet the 3,660-ft. airport requirement set by the committee as minimum runway length for takeoffs and landings at maximum gross weight at sea level, the manufacturer recommended, a plane with low wing loadings and correspondingly low stall speeds must be used. But "this will result in a comparatively expensive airplane to operate."

High Wing Models 303-11 and 303-12, operating at high wing loadings, at most desirable, even though they would not meet the 3,660-foot requirement but would operate from 3,550 foot sea level airports. These planes are high and low wing versions, operating at 44 lbs. per sq. ft. at normal gross weight. Other versions were presented that would meet the 3,550-ft. requirement.

Explaining that a 30-passenger model was chosen as the most likely size, Martin engineers acknowledged that "it may be that a smaller airplane will be desired." Crew would consist of pilot, copilot and stewardess.

The 303 model would cruise at 350 mph, at 10,000 ft., and 60 percent power, a higher speed than the 300 mph asked by the committee, but one Martin thinks would mean, with high wing loadings, a more desirable and economical airplane.

All versions but one were designed around the Wright R-3500 engine. The exception would use



Interior Plan, Martin Short-Range Transport Design. Drawings show top and side views of one interior design by the Glenn L. Martin Co. for a short-range



transport to answer ATA-A1 requirements. Other sketch represents a proposed compromise of passenger to cargo section.



BIGGEST PANEL FOR CLIPPER CEILING

Photo shows Ben Ameron, airplane fabricator at LoGuardia Terminal cutting what FAA says is the largest single piece of fabric paneling for any aircraft. Almost 200 sq ft, the panel will go on a trans-Atlantic Clipper flight deck ceiling.

the Pratt & Whitney R-2800, and with some changes that type could be installed in the other models.

Advantages—The designer sees a high wing type of plane offering such advantages as passenger visibility, ease of loading and unloading, reduced ground time, etc., while the low wing has such advantages as a shorter landing gear and reduced weight empty. To make its high wing plane safe in belly landings, Martin added 200 lb. of structure in the form of longitudinal beams in the bottom

of the fuselage. Under each spar heavy bulkheads are included to support the wing in event of a crash landing. The high wing version was found 243 lbs. heavier than the low, but due to smaller fuselage frontal area, the high wing plane would cruise 4 mph. faster than the other.

Studies of the 202-31 to determine how much useful load would have to be sacrificed to have the cabin convertible to cargo or passenger use showed that the conversion would cost 235 pounds.

Costs—Direct flying costs for the Model 202 (360 mile range at 60 percent power) were calculated at \$117.31 per hour, divided as follows: fuel, \$35.48; oil, \$1.38; plane depreciation, \$7.18; engine depreciation, \$4.87; engine overhaul and repair, \$1.27; plane overhaul and repair, \$6.49; plane and engine ground service, \$1.36; first pilot, \$11.18; co-pilot, \$5.60; cabin attendant, \$2.29; crew expense, cockpit, \$1.02; cabin, \$7.76; plane insurance, \$4.28; passenger service, \$33.80. Direct flying cost per mile was calculated at \$1.09, and direct flying cost per ton mile at \$1.54.

FAA Incorporation

Officers of the Federated Airlines Association will incorporate their group in Delaware, and the group's main recent Washington meeting was devoted to discussion of steps necessary to conform to Delaware corporation law requirements.

Present were Harry Stranger, president; B. Otto, secretary; J. McChesney, Jr., treasurer; Don Sorensen, executive director; and Ed. Conney, and Beverly Howard, pres-

ident of Hawthorne Airways.

Headquarters Opened—Original plan was to incorporate in the District of Columbia, but residence requirements precluded it. Sorensen opened FAA headquarters in Washington last week.

House Body Studies World Air Transport

Merchant Marine and Fisheries Committee expected to recommend that steamship firms be permitted to enter foreign air transport field.

While aviation circles in Washington focus their attention on an expected report by the Senate Commerce Committee on past-year international aviation, the House Merchant Marine and Fisheries Committee is proceeding virtually unopposed to draw up a report on the same subject.

The latter is expected to recommend strongly that the bare against steamship companies entering the foreign air transport field be removed.

Its report will be completed shortly, but it is not expected that a quorum of members of the Committee will be assembled in Washington before the first of September to review and approve it and submit it to the House.

Commerce—Decision of the House group to make a report is a compromise. The original plan of the Committee after the Lea bill was blocked was to introduce legislation of its own. One draft of a bill contained provisions giving the Maritime Commission jurisdiction over foreign air applications of steamship companies. But the bill was not introduced, apparently because House Interstate and Foreign Commerce Committee announced their intention to block it in the Rules Committee, just as Merchant Marine and Fisheries did with the Lea bill.

That situation between the two Committees, in which neither, apparently, is powerful enough to get its legislation through Rules Committee over the opposition of the other, results in a deadlock in the House as far as foreign aviation legislation is concerned. Conference between McCann and Lea, however, indicates that some solution, probably involving compromise on the part of both Committees, is under way.

McCann Committee—Chairmaned by the task of compiling data for

the report by the Merchant Marine Committee's chairman, Rep. Schuyler Otis Ward (D., Va.), is J. Ross McCann, formerly counsel of the Select Committee to Investigate Air Accidents, headed by former Representative Jack Nichols (D., Calif.), now TWA vice-president. San Francisco's Rep. Richard Welch, ranking minority member of the Committee, will be active in the work.

Conference Held—McCann conferred with Assistant Secretary of State Adolf A. Berle, and Rep. Clarence Lea, chairman of House Interstate and Foreign Commerce Committee. He will discuss the subject with CAB Chairman L. Welch before week.

Points likely to be made in the report:

1. Air operations by steamship companies will not result in domination of the competitive element from the transport field, as U. S. firms will be priced against foreign competition.

2. Civil Aeronautics Board was created primarily as an agency to deal with domestic airlines, and the Maritime Commission has had extensive experience in the foreign transport field and is therefore qualified, if not to take over, at least to play an important role in development of foreign air trans-



Detroit Plans \$25,000,000 Lake Airport: Model of proposed \$25,000,000 Detroit airport. Plan centerpinner dredging a site out of Lake St. Clair. Outer circle of "target ring" would be special helicopter airport, with conventional planes served on outside. Special hangars are shown at top of picture.

port, closely allied with foreign shipping.

Before the end of the war, aircraft will be available in sufficient numbers to enable domestic airlines not only to resume their pre-war level of domestic commercial operations but also to be prepared to branch out into the foreign field. The cruise merchant marine, on the other hand, is in Government service. Steamship companies, therefore, without ships immediately after the war, face the possibility of having all their pre-war passenger traffic over their noses taken over by airlines, which they are greatly apt to sustain their pre-war shipping routes with air operations.

No type of "chose instrument" policy should be adopted by the United States for foreign air transport.

Service Changes

Airline service changes reported to Civil Aeronautics Board, effective Aug. 1:

American—Additional round trip, New York-Pittsburgh, AM 29; additional round trip, Chicago-Pittsburgh, AM 30; additional round trip, Chicago-Cleveland, AM 1; Chicago-Indianapolis, AM 18; service started at San Antonio-PALM in March; Dallas and Mexico City are now round trip only.

Chicago and Southern—Additional round trip, Chicago-San Francisco, AM 1; additional round trip, San Francisco-Indianapolis, AM 18; Chicago-San Francisco, AM 1; Chicago-San Francisco, AM 18; service started at San Antonio-PALM in March; Dallas and Mexico City are now round trip only.

Northwest—Additional round trip, New York-San Francisco, AM 1; additional round trip, New York-San Francisco, AM 18; service started at San Antonio-PALM in March; Dallas and Mexico City are now round trip only.

United—Additional round trip, New York-San Francisco, AM 1; additional round trip, New York-San Francisco, AM 18; service started at San Antonio-PALM in March; Dallas and Mexico City are now round trip only.

Effective Aug. 6: Chicago—2 additional round trips New York-Miami, PALM 1.

fields and other features are on the drawing board.

Advocates claim the plan would provide a field that could be expanded, would have no flight obstructions, would eliminate ongoing land needs and would at the same time offer other advantages.

Downtown Terminal Problem Unsolved

Joint Airport Users Conference meetings closed with no definite solution for the problem of bringing air-borne traffic directly into the city-center communities, except by airplanes into those that have water fronts.

Oliver Parks, air school operator, said it is not enough to serve small communities with close-in air terminals. The aviation reorganizing and operating industries cannot grow to full size unless personal and two planes can land and take off within walking distance of schools, shopping and business centers. He said he meant to include such places as Manhattan Island.

But no one claimed that any more than relatively few planes could be handled close at hand sites.

It was a notable fact that experts attending the conference, in fact as they were on immediate post-war problems, made little or no mention of future possibilities in platforms with catapult and arresting gear.

\$25,000,000 Detroit Port-Resort Planned

A group of Detroit's leading citizens are planning a \$25,000,000 airport-recreation site to be constructed in Lake St. Clair for use by American and Canadian citizens and provide a link with other foreign airports.

2,275 Acres—The proposed 2,275-acre site would be a mile offshore from Detroit, with such that it would be connected by a two-mile causeway and bridge. Two-mile runways, bathing beaches, picnic grounds, museums, sports

Six-Runway Compromise Plan Adopted for Idlewild Airport

Design, which may be extended later into either conventional parallel pattern or tangential plan suggested by American Airlines, is adopted by three planning committees.

By MARTIN V. MERRITT

A plan initially providing six runways for New York's new Idlewild Airport, in effect a compromise between the conventional parallel airport design and the tangential pattern suggested by American Airlines, has been adopted by the three groups in whose hands this matter rests, it was learned by Aviation News last week.

The three bodies are the Idlewild Technical Committee, headed by American Airlines' Glenn Barker, the Mayor's Civil Policy Committee, and the so-called "Top Committee" headed by Paul H. Nathan of Eastern Air Lines, who, with James Easton of American Export, John Leslie of Pan American, and Ralph Dumas of American Airlines, represent the eight airlines interested in the airport.

The parallel design, originally planned for Idlewild by Jay Bowser, city engineer and designer, was considered by some airline representatives to be too small for future operation. It was estimated that the anticipated traffic at Idlewild would exceed the plan in three years and that four such air-

ports would be needed in ten years.

Considered Too Costly—Likewise, objection to the tangential design centered around its cost, estimated at \$50,000,000 to \$60,000,000. Because the plan, although used before, is considered radical, it was argued that the cost was too high for experimentation. Furthermore, the Air Line Pilots' Association, through its president, David L. Behrman, fought the plan vigorously, maintaining that its converging runways were dangerous.

Another serious objection to the tangential plan, raised by some of the city officials, was the location of the Administration Building and landing facilities in the center of the field, which made approach by surface transportation difficult.

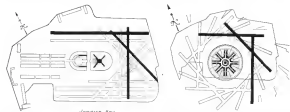
Plan Fits Both Patterns—The six-runway plan adopted by the committees consists of two sets of three runways, each of which is a component of both designs. It is believed that the six runways will provide sufficient facilities for the traffic of the immediate future. It is possible to add more runways as

they are needed and the experience of the early operation of the airport can then be drawn on to determine whether the parallel or the tangential design should be followed. As can be seen in the accompanying sketch, the three-runway plan can be extended into either of the two designs.

Mayor LaGuardia has approved the construction of the first three of the six runways, which will be in the northeast quadrant of the field. The three will be 10,000 feet, 7,500 feet, and 7,500 feet each, respectively, and are so planned that they can be lengthened if necessary when the design is developed later into either of the two patterns.

\$400,000,000 Cost Likely—Estimates of the total cost of Idlewild Airport have ranged from \$60,000,000 to \$400,000,000, but the adoption of the six-runway plan makes the lower figure more probable. The six runways will cost about \$30,000,000, the land about \$6,500,000, and the Administration Building about \$7,500,000.

Earlier this year the city condemned 3,350 additional acres in the Idlewild area to provide needed space for the field. This latest acquisition includes more than a thousand houses, most of which will be torn down before May, 1945. Some of the land was acquired to protect approaches to the landing areas from erection of high structures and houses now located on this land will remain. Present indications are that Idlewild Airport will be ready for initial operations early in 1945.



Idlewild Runway

Adaptable Runway Plan Used—The three-runway plan which has been agreed upon for New York's new Idlewild Airport may be extended into either the conventional parallel pattern or the tangential design

suggested by American Airlines, as the above sketches show. Two sets of three runways each, such as is shown by the heavy black line, will be used initially until the need for more is felt.

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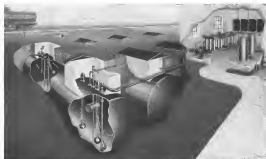
There are convincing reasons why Bowser Fueling Systems were selected for many of the major airports of this country, as well as by Pan American for ports on both its Atlantic and Pacific coasts.

Here are just a few of the more important reasons . . .

ACCURATE MEASUREMENT—With Bowser's famous Xacto Meter, the world's most widely used meter, every drop of liquid must be measured and recorded before it is dispensed. Xacto Meter easily meets the tolerance established by the U. S. Bureau of Standards and the Weights and Measures Departments of all States.

CLEAN, DRY, SAFE FUEL—A moisture, placed in the suction line ahead of the pump, catches any heavy particles, and any remaining dirt or free moisture is removed by the Bowser Coalescing Filter. Removal of impurities and free moisture while the gasoline is being delivered in your concrete structure of clean, dry, safe fuel.

DEPENDABILITY—The dependability of Bowser Aviation Fueling Systems is supported by the company's experience as liquid control specialists since 1884, and by its specific experience in the fueling of planes, since the birth of the aviation industry. AVIATION DIVISION, BOWSER, INC., Fort Wayne 4, Indiana.



that sets the Bowser's seal of quality is the design that is the basis of all Bowser equipment.

▲ THE NAME THAT MEANS EXACT CONTROL & LIQUID ▲



BUY WAR BONDS

the de-icing discussion and another on technical development with representatives of the CAA.

The latter are Allen E. Moss, chief of the aircraft development section of CAA's Technical Development Division, Harry Parnell, chief of the instrument and appliance unit of that section, and Don Stuart, chief of the Division.

Advancement will follow completion of discussions remaining unfinished from the aircraft or engine, propeller, and engine accessory sessions.

Aircraft Requirements Committee members will remain in Chicago for a meeting of their group the following day.

ATC Cancellations Free 400 Flyers

Pilots and co-pilots being released for regular airline service.

Advantage estimates are that about 400 pilots and co-pilots, 225 to 250 of these captains, are being released for regular airline service through Air Transport Command cancellations of domestic contracts with the air carriers.

As was forecast, virtually all of

this type of ATC contract has been or is being canceled. Among cancellations are contracts with Chicago and Southern, Colonial, Braniff, and Delta. PCA and Northeast are to be out Aug. 15 and Western has been notified.

Tied for Plane Returns—The action in each case has been timed as far as possible to fit in with the return of planes and likely increases in the carrier's own operation. Pilots released from ATC operations have been absorbed readily. Some of them were able to take long-postponed vacations before returning to their regular airline duties when a lag occurred between the end of contract operations and increased carrier activity. Many had been flying hours above what they would have been allowed on commercial schedules and accumulated time in excess of that required by Civil Air Regulations.

Pass Pressure—One effect of the charge-order has been to take the pressure off a desire by the airlines to identify their personnel in contract work. Some time ago ATC was asked for permission to make such identification, but it was refused. The plan involved use on

ATC uniforms of shoulder patches bearing a number assigned to each airline.

The request was renewed, last September for it has declined proportionately to the decrease in domestic contract operations for ATC, although presumably still strong enough lines with overseas ATC contracts.

So. American Cargo Potentials Studied

Rates to be paid largely on type of plane justified by traffic volume, says Commerce survey.

Air cargo rates between the U. S. and Latin-America in the immediate post-war period will depend largely on the type of plane justified by the traffic, says the Department of Commerce.

The Department's Transportation Unit recently published its first report on air cargo potentials between the U. S. and Latin-American countries. Brazil was selected for the initial analysis. One-air route in specific commodities that may be diverted to air carriers in the post-war period.

Routes—The survey led to the conclusion that air cargo rates from airport to airport might reach a level of from 15 to 25 cents a ton-mile, depending on tonnage served, if the traffic volume is large enough to justify specially designed air cargo planes carrying nothing but commodities. But it is so small that it must be carried in planes designed for passengers and mail, air cargo rates may be expected to be higher.

Five hundred twenty-five commodities were chosen by the Brazil study, 478 exports and 47 imports. Volume of exports offering air cargo prospects was found about eight times volume of imports in weight and three in value, a circumstance expected to affect negatively average load factors of carriers and 'probably result in higher average rates'.

Post-War Outlook—Without attempting to forecast the proportion of post-war trade that will go by air, the Unit found that of the \$186,650,137 worth of commodities moving between the U. S. and Brazil in 1938, only 7.7 percent was potential air cargo.

Value per pound, perishability, fragility and style factor (decline in demand) were the four basic factors used in the study, directed by John B. Crane, chief of the unit.

CAB SCHEDULE

- Aug. 7. Reliefs due in the Eastern Time Zone:
 - 1. Reliefs due in the Washington-New York zone (United 211).
 - 2. Reliefs due in the New York-New York zone (United 211).
 - 3. Reliefs due in the New York-New York zone (United 211).
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UNITED'S NEW TICKET OFFICE

United Air Lines' new passenger service counter at San Francisco airport, designed by its own engineers, stands among its facilities a computer built on which bags are carried after weighing to the exact legal loading direction to the airport.

Jan. 16, 1945. Traveler leaving duty. Central Pacific route. Feb. 1, 1945. Traveler leaving duty. American route.

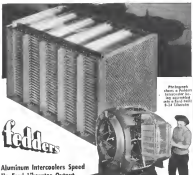
various will be necessary and carry flights must be made before scheduled flights can begin.

Essair Gets Electra For Feeder Line

A Lockheed Electra has been purchased by Essair, Inc., and officials say the line, authorized as a local feeder operation last December, definitely expects to be in operation by the end of this month. Negotiations for a second Electra are near the final stage, and purchase of a third is contemplated. The first two have been released by the Army, and Essair hopes to receive one last week. Some com-

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Fedders

Aluminum Intercoolers Speed Up Feed Liberator Output

Feeders Staff in Detroit plus Staff in Phoenix is helping to establish sustained production records at Western Air.

Feeders Staff in Phoenix is helping to establish sustained production records at Western Air.

Feeders Staff in Phoenix is helping to establish sustained production records at Western Air.

FEDDERS MANUFACTURING CO. - - - - - **BUFFALO 7, N. Y.**

India Now and Post-war

To manufacturers of aircraft, jet engines, aeronautical equipment, accessories including avionics, radio, wireless lighting and kindred items. The Asian Air Association—Company well-known and famous world-wide—now prepared to consider the exclusive agency for or sub license to manufacturers—their manufacturers in British India. The Asian Air Association are planning a chain of air terminals stations at the major air ports in India which places them in an unique position to represent Air Lines and undertake the maintenance of aircraft.

Plans and other references submitted. Correspondence direct to:
THE ASIAN AIR ASSOCIATES
Worrell House, 15 Graham Road - Bedford Square, Port, Bombay

Winning World Traffic

REFERENCE TO HISTORY should be necessary for most of us to learn when the American Merchant Marine carried a majority—or even a near-majority—of American foreign commerce. Looking back on this sad record, top aviation officials here are determined that no such calamity shall beset our commerce in the field of international flying. They are convinced that since the traffic will not stand unlimited competition, some form of agreement will be necessary. But what kind?

This question plagues officials almost as no other one does when discussions are held with other air-minded nations, particularly the British, who have built their empire on a firm base of ocean communications and transportation and hope to continue that cohesion now through the newer medium of aviation.

The basis for determining what traffic America shall carry, or what any other nation shall carry, are numerous. Still it be divided even—Stephen, by fair proportion of respective traffic-generating power, or shall each nation carry all the traffic it generates?

The News can report on highest authority that

the United States has no intention to acquiesce to the British plea for 55-55 division of trans-Atlantic frequencies and, moreover, it is known that Britain rapidly is abandoning any such hope.

One of the most important points made by F. H. Crozier, chief analyst and researcher for the CAB, in a new trans-Atlantic air service study, is that America can be expected to generate 49 percent of the passenger travel in both directions between the United States and the European-Mediterranean area.

"The relatively superior traffic-generating power of the United States is emphasized here," the report says, "because it represents a strategic advantage of possible value in negotiation with other governments for the establishment of cooperative services. . . . It seems reasonable to accord this factor considerable weight in the granting of reciprocal rights."

Mr. Crozier understates the situation. The industry can be sure that America will obtain considerably more than 50 percent of trans-Atlantic frequencies unless there is an abrupt change in the direction of our present negotiations with Britain.

Easing Restrictions

FOR MONTHS the Civil Aeronautics Administration, progressive members of Congress led by Jennings Randolph, and aviation organizations have sought to convince the Army Air Forces that easing of special war regulations for civil flying along the East and West Coasts are merited.

As long ago as last November Maj. Gen. Barney Giles, as Chief of the Air Staff, wrote Mr. Randolph that the joint staff planners then were studying existing directives relative to control of flying in coastal defense commands with the objective of recommending such modifications and changes "as seem desirable," and that "some relaxation of present restrictions on flying will probably be recommended."

Latest move by the First Fighter Command permits approved flight lanes 3 miles wide from local airports in eight locations to the boundary of the eastern vital defense area. These corridors start from Hybla Valley Airport near Alexandria, Va.;

Blue Ridge Airport, Va.; Congressional Airport, Md.; Redding, N. J.; Monroe, Conn.; Bethany, Conn.; Waterbury, Conn. and Bristol, Conn.

These small favors are welcomed by eastern private flyers, but they are insufficient. If the policy is continued of opening more lanes, onboard aeronautical maps—if they can be granted far enough to keep up with the additions—will break down into the confusion resembling flight lanes of pre-war Europe. No relaxation of regulations on the West Coast has materialized.

The possibility of an invasion of the coasts has diminished. All aircraft spotting has been abandoned by defense authorities. Private flyers are willing to abide by any restrictions that are necessary for defense of the coast lines, but they do not believe that keeping civil aviation on the ground, or in a wolver of approved lanes, is necessary to tactics at this time.

ROBERT H. WOOD

America's Airline Douglas DC-3 serving the Southern Transportation Route

General Tire Serves and Salutes the Airlines

One of Continental Airlines (Douglas) fleet of Lockheed Lodons

General Tire (The Douglas DC-3) Lockheed Lodons with one other, etc.

America's Top-Quality Tire Has Kept Pace with the Fast-Changing Requirements of Air Transport

A vital link in our war effort . . . Airlines know that the planes and personnel of our airlines have made an invaluable contribution to Victory, maintaining records for safety and performance that call for the highest admiration.

From the very beginning of air transport, General Tire has been privileged to work with the airlines in the development of aircraft tires and allied products that have kept pace with the ever-increasing demands of faster landing speeds, heavier loads and improved runways.

General continuously has supplied products that ensure the important factors of long life, soft landings and rugged service . . . with maximum safety insuring every step in every improvement.

General Tire pledges its continued cooperation to the airlines in the strenuous future which lies ahead.

AVIATION DIVISION
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BACKING UP THE PILOT

NAVY Radio Gunners in planes like the famous Douglas "Dauntless" dive bomber play two vital roles. Not only do they operate radio and radar equipment, but effectively cover the rear with two 30-cal. machine guns... leaving pilots free to concentrate on their job of scoring direct hits.

The skill and daring of these Navy Radio Gunners is largely responsible for the destruction of hundreds of enemy planes and ships.

The success of a plane depends not only on its crew, but on faultless engine per-

formance, and thousands of engines in military planes as well as in civilian airlines depend upon *Texaco Aircraft Engine Oil* for reliable and economical operation. In fact...

More revenue airline miles in the U.S. are flown with Texaco than with any other brand.

Texaco Aviation Engineers will gladly help you, too, secure increased engine life with Texaco Aviation Products, available at leading airports in the 48 States. The Texas Company, *Aviation Division*, 135 East 42nd Street, New York 17, N. Y.



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